

# *The* AMERICAN RIFLEMAN

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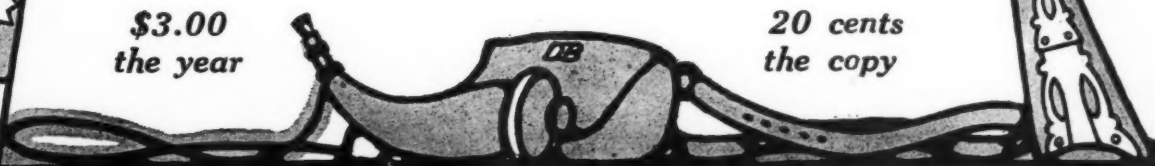
By Charles Askins

**Bullet Splash**

By Capt. E. C. Crossman

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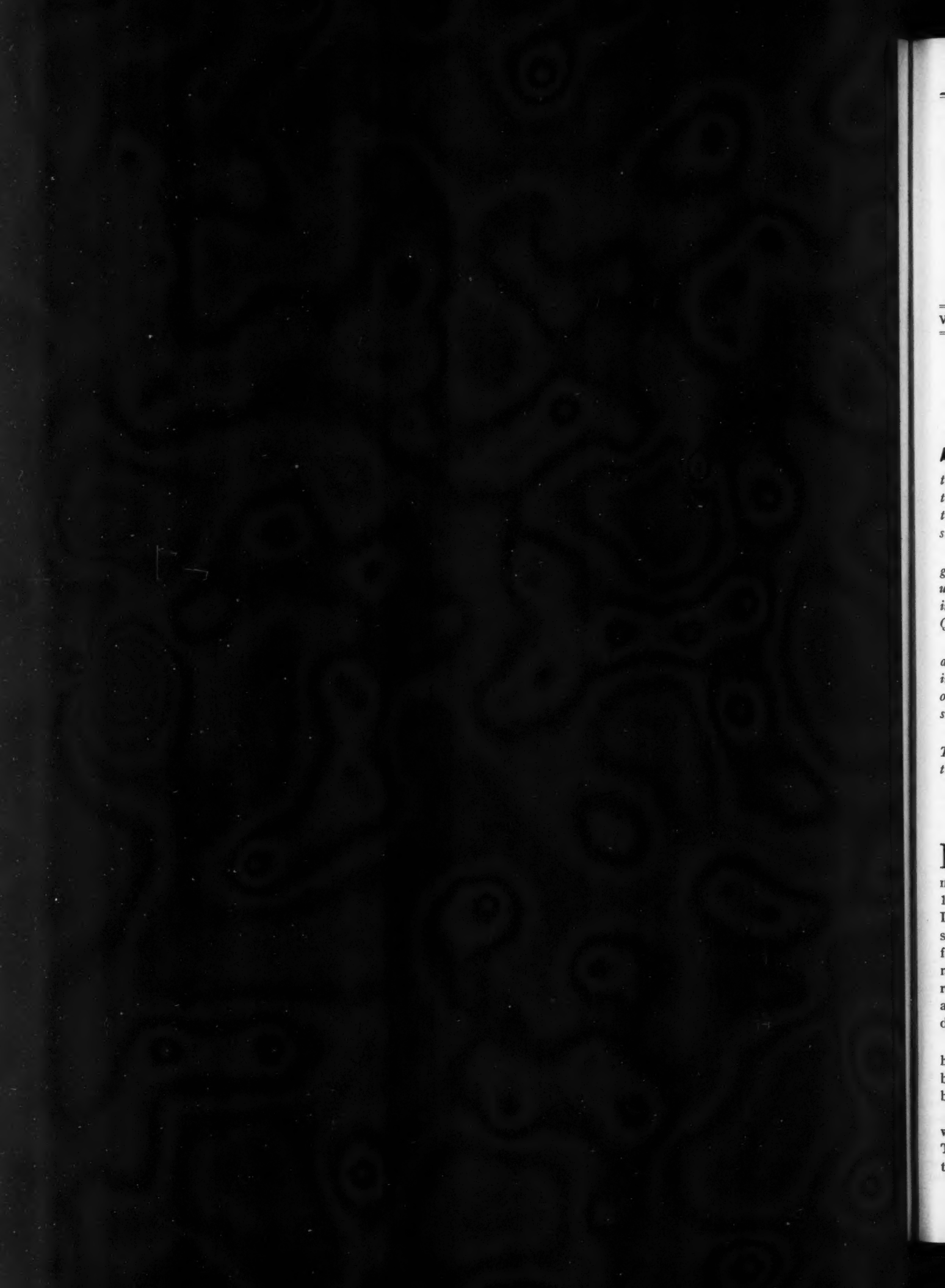
John Kauffman



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# The AMERICAN RIFLEMAN

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## "Built To Order"

SOME day, we have always known, somebody would do it. For years, the Editors have read glowing descriptions of ideal guns, or have listened while enthusiastic riflemen expatiated upon their pet theories of what a rifle should be. But these rifles invariably have existed mainly in the imaginations of their creators and have seldom gone beyond working plans, after their designers learned the cost involved in production. It is therefore refreshing to find a man who has had the keen enthusiasm to design a radically different rifle from muzzle to butt plate, the time and money necessary to transform it from figment of imagination to a work of art in fine wood and steel, and the opportunity to take his creation afield and try it on moose, bear, caribou, and sheep. This, truly, is something new. And yet, R. G. Packard, Jr. has only done what a thousand other shooters have longed to do.

His achievement is proof that there are no lengths of time, trouble, or expense to which the blown-in-the-glass guncrank will not go if thereby he is assured of what in his mind constitutes a perfect weapon. And the story of how he designed and had constructed under his personal supervision his thumb-trigger sporter cannot but be an amazing revelation of the patience, persistence, capacity for infinite detail, and the overcoming of obstacles, engendered in a shooter who knows what he wants and sets himself to obtain it. Qualities which are present in some thousands of other riflemen who can never hope to see their dreams come true.

Mr. Packard's thumb-trigger gun, as it stands today, might be ideal in the eyes of a score of riflemen in the whole world; another hundred or two may find in it some feature appealing to their own ideas. It cannot be considered of great commercial importance. But nine hundred and ninety-nine riflemen out of every thousand who read this story will find enjoyment in the tale of how the author worked out his problems. And from that angle, the Editors believe that it ranks with the few outstanding gun stories of many years, the weapon in question being a most original arm and in no sense a made-over or remodeled weapon.

It is natural that every shooter who has ever contemplated owning a tailor-made rifle should speculate upon the cost of this rifle. Therefore it may be told with all propriety that the expense of making jigs, special cutters and other tools, and bringing the rifle through experimental stages to completion was approximately \$13,000. A second rifle might perhaps be made for \$3,000.

By R. G. Packard, Jr.

LIKE everyone who has used a rifle much and become interested in the subject, I desired to make changes and improvements from the stock gun as put on the market; accordingly in 1922, I had made an entire new rifle embodying all the changes I had been dreaming about for years. I used this gun during the summer in Yukon Territory, shooting the usual line of game found there. On my return from the Yukon I had a second rifle made which was substantially similar to the first one but corrected some mistakes and in addition it was fitted with a detachable telescope sight and this is the gun I here illustrate and describe.

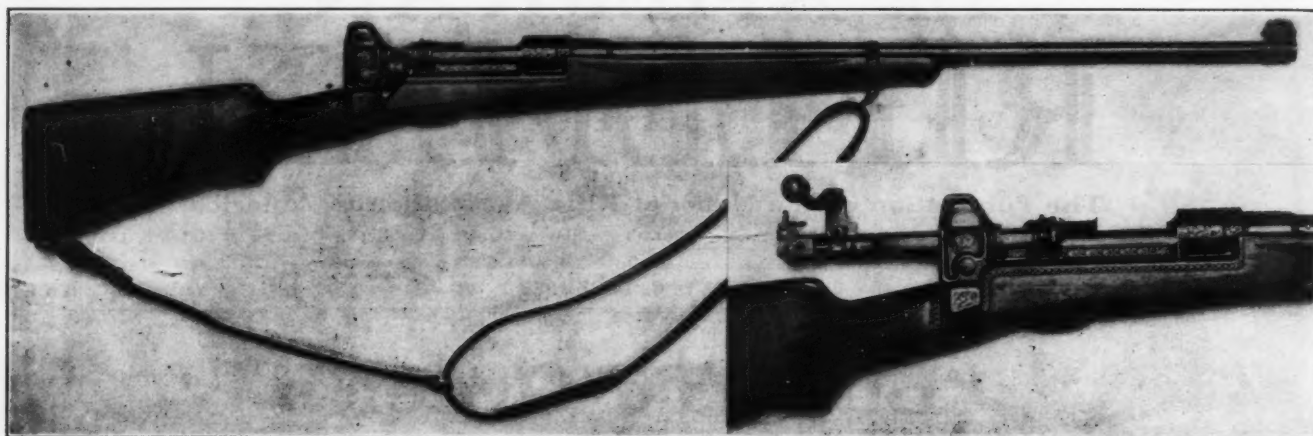
The receiver is extended sufficiently to the rear of the bolt handle to allow the cocking piece with its attached peep sight to be guided in the same grooves in which the locking-lugs of the bolt slide when the bolt is retracted.

On the rear end of the receiver are two open sided guards with rounded top corners, between which is the peep sight. These vertically projecting lugs on the receiver absolutely protect the peep sight from injury or from catching on anything.

The bolt handle is kinked in such a manner that it will pass over the sight protecting lug on the right side of the receiver when the bolt is drawn back. On the left side of the receiver are the dovetail pockets to attach the telescope and between them the cam recess in which rotates the eccentric cam that clamps the telescope mount to the receiver.

The thumb trigger button is between the side walls of the receiver at its rear end and is directly underneath the cocking piece, the bottom of the thumb trigger recess being on the same line as the top of the butt-stock where it joins the receiver. With the thumb trigger the rifle is discharged by a vertical downward pressure on the trigger button by the thumb near its end without relaxing the grasp on the stock, the motion being a little over one-sixteenth of an inch. I have used the thumb trigger exclusively for about ten years and consider it superior to the ordinary finger trigger, this is especially so with shots at running game or from a moving boat.

The safety is operated by a lever which is located in the thumb trigger recess adjacent to the thumb trigger and on the



left side but is so placed that there is no possibility of the gun being accidentally discharged when the lever is depressed to take off the safety. The controlling theory in designing this safety was that a sportsman has any amount of time to put a safety on but very little time to take it off. This safety is taken off by pressing down the lever with the thumb without moving the hand from its firing position on the small of the stock and this can be done while the gun is being brought into the line of sight, or when it is at the shoulder. The safety is put on by raising the lever until its outwardly turned thumb piece is against the rear left wall of the thumb trigger pocket and is held firmly but non-positively in the position of on and off. This safety fulfills the three necessary functions for a safety, that is, it blocks the firing pin from advancing, it locks the action and it withdraws the cocking piece from in contact with the sear.

The firing pin is detachably held in the bolt with the firing pin spring under compression by means of a sleeve formed with a radial lug which lug is held in a pocket in the underside of the base of the bolt handle by the compression of the firing pin spring. This construction allows me to do away with the rear screwed-in bolt head as bolt guns are usually made, shorten the bolt without shortening the firing pin spring cavity and also permits the use of two cocking cams symmetrically located on diametrically opposite sides of the cocking piece, instead of one as on all other bolt rifles. Hence, when the bolt is rotated and the cocking piece is thrust rearward by the cocking cams the pressures are circumferentially balanced and the force applied to compress the firing pin spring tends to shove the cocking piece directly backward without any tendency to cant or jam in the grooves it slides in.

The travel of the firing pin is one-half of an inch and in cocking this movement of one-half an inch is obtained by the cocking piece, coming on the bolt in opening five-sixteenths of an inch and the bolt coming on the receiver in closing three-sixteenths of an inch.

The rear peep sight mounted on the cocking piece is adjustable vertically and horizontally and has two sizes of apertures one being seven

Above: A full length view of the most original rifle ever devised — The Packard thumb-trigger sporter. As nearly as a photograph can do so, it illustrates the many unique features in the development of which so long a time and so large an amount of money was expended.

Below: A close-up of the right side of the rifle with bolt retracted showing the metallic sight equipment on the cocking piece. The peep sight, when the bolt is closed is protected by wings.

sixty-fourths and the other nine thirty-seconds of an inch in diameter either of which can be rotated into the line of sight as the light conditions require. The front sights are placed between open sided guards somewhat similar to the sight protection as is used on the model 1917 Enfield Rifle. There is a small fixed ivory bead for use with the small aperture of the peep sight and a large bead which folds down into a pocket in front of the fixed small bead. This large bead front sight can be rocked up in front of the fixed bead entirely obscuring it and is intended for use with the large aperture of the peep sight at close range in a dim light. I endeavored to make the large bead front sight luminous with radium paste, like the figures on the luminous watches. This luminous feature although the radium paste was protected from wear and moisture by transparent celluloid did not work out satisfactorily in actual use.

In designing the take down feature of the rifle I wished to avoid taking it apart between the sights and also did not want to disturb the rigid attachment of the barrel to the receiver. This was accomplished by taking off the butt-stock where it joins the receiver. A recess is formed in the rear end of the receiver below the thumb trigger pocket and into this recess fits a forward projecting plate or ferrule attached to the front end of the butt-stock which recess being non-circular prevents the stock from turning. The stock is fastened to the receiver by a tension rod passing through the stock lengthwise and has a T head at the forward end and is set up by a nut in a pocket in the butt-plate. To attach the stock the T head of the tension rod is inserted in a slot in the stock end recess of the receiver and the stock turned one-quarter of a turn which engages the lugs on the receiver with the T head of the rod, the nut in butt-plate is then set up using the bolt as a spanner, the knob on

the end of the bolt handle and nut on the tension rod being especially formed for this purpose. The stock rod nut in the butt-plate is locked from unscrewing by a spring catch which can be shoved out or in lock by using the point of a loaded cartridge or any other pointed instrument.

The magazine cover plate is hinged at its forward end and has a spring actuated catch at the rear end which can be shoved out of lock when it is desired to open the magazine.

The forward sling strap stirrup is pivoted on a band going around both the barrel and the forearm and the rear sling strap stirrup attached to a lug at the lower edge of the butt-plate and forming part of it. There is a trap in the butt-plate and pocket in the stock for a cleaning outfit.

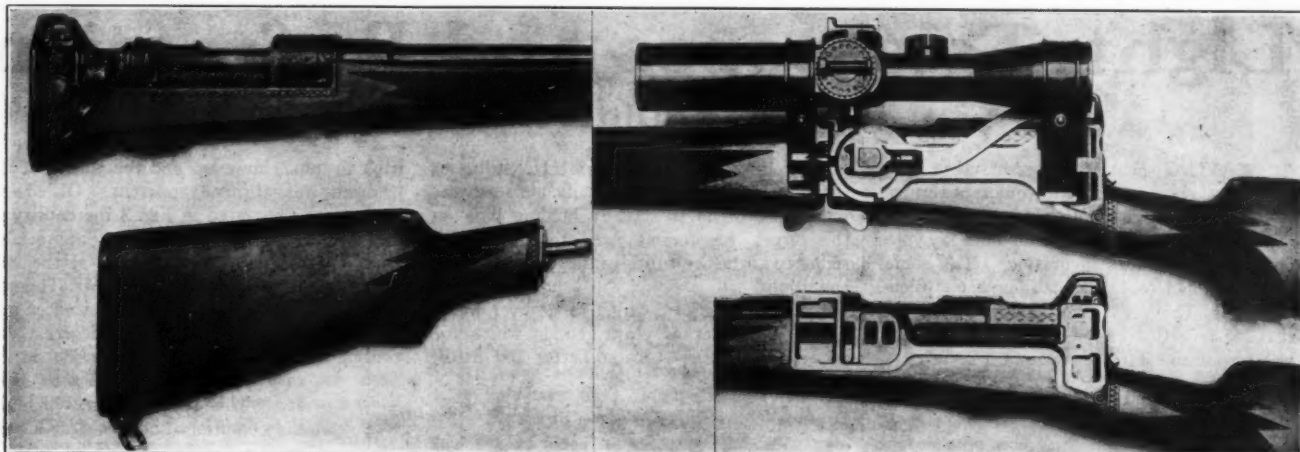
The mechanism of this rifle can be dismounted and assembled without a screwdriver or other tools by the fingers with the aid of any pointed instrument such as the bullet of a loaded cartridge, a wire nail or a pointed piece of hard wood. This includes taking the firing pin and its spring out of the bolt, the firing pin out of the cocking piece, the sight out of the cocking piece, the entire safety mechanism, the trigger and sear with its spring, the extractor off the bolt, and the magazine follower and its spring out of the magazine. In all other bolt guns the stock has to be taken off the action and barrel to get at the trigger and sear. The telescope and its attaching mechanism can be dismounted and assembled in the same manner.

The only standard parts used, were a Springfield magazine follower with its spring, a model 1917 Enfield extractor and its band, and a Mauser bolt stop, all the other parts of the rifle were of my designing and made especially for this gun.

The rifle weighs without the telescope about eight and a half pounds and the barrel is twenty-six inches long.

The telescope is offset to the left and above the center of the bore to bring it opposite the left eye when the head is hard down on the stock. That is the telescope and the open peep sights are very nearly in binocular relation when the face is in proper contact with the stock. I determined this position of the telescope for use with the left eye by trial





Left (and Below): Illustrates the take-down feature of the Packard rifle, the butt being removable at a point where separating it from the remainder of the stock in no way interferes with the relation of the barrel and action or the alignment of the sights.

Right (Above): Left side of the rifle with the special model hunting telescope sight in position. (Below): Left side of the rifle showing details of telescope sight fitting.

using a telescope adjustably clamped to one of my hunting rifles and it is about two and one-eighth to the left and about one and one-quarter inches above the center of the bore. By actual use I can find little if any disadvantages in using the telescope with the left eye and it certainly has many advantages over the right eye position, among which are that the head is supported and steadied by the stock in the best possible manner, the bolt can be operated, the magazine charged, and the telescope and open sights can be used at will without the removal of either. Another advantage of the left eye position I discovered by use in hunting that I could line up the rifle on the animal with the open sights which simultaneously brought the target into the field of the telescope, without moving the head.

The telescope sight is attached to the receiver by two sets of dovetail hooks forming part of the mounting and at either end. Especial attention was given in designing the receiver to get the pockets for the dovetails of the mounting far apart so the size of base of attachment would be as great as possible and it is about seven and one-half inches long and nearly two inches wide. Between the dovetail lugs on the mounting is an eccentric cam rotated by a self-locking lever or handle. This cam rotating in a pocket in the receiver feeds the dove-tails into mesh and as the stem of the cam passes through a segment of a worm gear eccentrically by rotating the worm the cam is advanced and brought into contact with the rear wall of its recess in the receiver. There is a small segment cut off the cam where it bears against the receiver in the locked position which gives ample surface to prevent upsetting and wear.

The adjustments for range and deflection are made by moving the reticule vertically and horizontally within the telescope tube. This is done by a vertical sliding carriage in which moves horizontally the reticule that is positively forced in one direction by the adjustment screws and spring pressed in the other; the coil spring for the vertical movement is carried in the telescope tube and the spring for the horizontal movement is in the vertical sliding carriage and moves with it. By this design I avoid the friction induced by the

pressure of one spring working at right angles to the other spring tending to retard the movement of the reticule.

The sight can be zeroed by removing the two small screws that hold the spring catch to the head of the reticule adjustment screw and turning the catch to engage the zero graduation notch, the clamping screws are then replaced in two sets of holes which will be found always to match diametrically opposite, and these holes are so spaced in vernier relation that the error will be negligible.

I used four power Hensoldt lenses for the telescope which seemed to me at the time to have superior optical features over the three other kinds of telescopes that I bought and examined but as I knew very little about optics the choice was based entirely on the size of the field and the clearness and sharpness of the image.

The tube and some of the fittings are made of magnesium metal alloy to get lightness. I took great pains to make the telescope as near dust and moisture proof as possible, there being no opening into the tube except through tightly fitting screw threads, narrow ring gaskets of fish paper are used between the lenses and the shoulder on which they rest in the tube and the outer screw caps, and even the reticule focusing mechanism was especially designed for this purpose.

I zeroed the telescope for three hundred yards and cut the range graduation notches by trial shooting from three to eight hundred inclusive at every hundred yards. While hunting I always carried the telescope detached from the rifle in a leather case like ordinary binoculars and only used it when I had a long shot and plenty of time, using the open peep sights which were zeroed for one hundred yards for the shorter distances that usually occur in hunting.

I took this rifle and its telescope sight with me on a hunting trip to the Yukon Territory and shot moose, caribou, sheep and bear with it. The rifle itself worked very satisfactorily with one exception, the trigger motion was much too long and not what I had been used to in my other thumb trigger rifles, and after missing several easy shots I made a new trigger out of a piece of .22 rifle barrel, this being the only piece of metal I could find in camp that would do. The new trigger shortened the motion over half and with this detail rectified the gun is to my mind as near perfect as a rifle can be.

The main principles of the telescope sight design worked satisfactorily, that is the sight retained its original zero which was not affected by repeatedly attaching and detaching, the reticule adjustment remained constant with the original range and deflection graduation notches and the reticule never stuck in its movement but seemed to follow the adjustment screws perfectly. The left eye position of the sight seemed to me a distinct improvement the advantage of which I have previously mentioned. As to the faults of the sight, the whole sight was too large and heavy and the carrying case unnecessarily clumsy. The top of the vertical sighting post, in the reticule should be cut off square instead of ending in a sharp point, and the two horizontal sight wires entirely omitted. The range and deflection screws should have minute angle clicks. I found it very hard to judge distances in rough country and think there should be some kind of range finder combined with the telescope to make it a more practical instrument.

I had the action, the telescope, and all the other metal work of the rifle excepting the barrel made by days work and under my supervision at the Manufacturers and Inventors Electric Co. of 29 Cold Street, New York City. The Remington Arms Co. of Ilion, N. Y. made the stock and barrel, did the heat treatment, engraving, coloring and assembled the gun. I wish to thank Mr. A. L. Lowe, Superintendent at the Remington works and the other men with him, for their cooperation and help in turning out such a beautiful and entirely practical piece of work.

# Light, Telescopes and Refraction

By E. E. Dittbrenner

HAVING spent a number of years of an otherwise useful life squinting through the second mentioned article, waving my arms frantically and abusing both my voice and the cause of its invocation, I feel somewhat qualified to say something about them.

In Mr. Thomas' "Snap Shots" he guesses that the reflection of the heat of the sandbank was responsible for his apparent  $1\frac{1}{8}$ -inch trajectory at 200 yards, instead of better than three inches, which it should have been. This time his guess hits the mark, undoubtedly. There is no doubt that the heat thrown off the sand bank in front of the target was responsible. While it is true the sun's rays are bent before hitting the target in the conditions he has cited, this item will not affect the general result, as he is concerned only with the light coming from the target to his eye.

Have you ever noticed when you thrust a stick in the water, how sharply the stick seems to bend at the water's surface? Or how much shallower the water in a bucket or in a clear stream seems to be than it actually is? The reasons are the same as in the case of the target seeming higher than it actually is. This seeming bending of objects in the water and partly in air is due to the bending of light rays. For the same reason we actually see the sun in the morning (providing we have spent the night with a sick friend, say) before it is above the horizon. This bending of light rays is called refraction. Sound waves are also subject to this phenomenon.

The explanation is quite simple, though actual conditions might make quite a complicated problem. When light passes from a dense medium into one of lesser density, refraction takes place, *i. e.*, the light ray is bent. In the above case, the ray is bent away from the normal (another word for perpendicular) to the plane separating the two mediums. If the light travels from the lighter into the heavier medium it is bent toward the normal, but since you have reversed the first conditions, the final result is the same, that is, relative to the separating plane, the direction of bending is the same. If, however, the light ray reaching you happens to be perpendicular to the separating plane, there will be no refraction. Take the case Mr. Thomas had on his range in Figure 1. The target is actually at A, but he sees it as at A' and is actually aiming at A'. Now re-

verse conditions as in Fig. 2. He still sees the target as at A' and actually aims at that point. Since he is actually holding high on the target, he doesn't need to elevate his sights to correspond to his range under normal conditions.

I recall a case of a target range-over which I shot a number of years ago, in which the apparent trajectory became flatter and flatter

back to mind, however, and the nature of the problem was at once apparent. Of course, in the case illustrated in Fig. 3 the density of the various strata will have an appreciable effect on the course of the bullet at the long ranges we were shooting, but in Mr. Thomas' case I doubt that this phase would enter into the problem to an appreciable degree. According to his figures, the refraction in his case would be about 45 seconds of arc. This seems a trifle high for the condition, but is not at all excessive.

To illustrate: In an observation on the sun (according to the "Nautical Almanac") at six o'clock in the afternoon in latitude 40 north, we must correct our observation nearly  $2\frac{1}{4}$  minutes of arc. There are, of course, things entering into an observation of this kind which will be disregarded or are non-existent in light rays approximately parallel to the earth's surface. These rays come through millions of miles of cold space, mostly vacuum, and when they hit the earth's air envelope they bend. The amount of bending will depend on the miles of air traveled through, and this will be greater at six o'clock (either morning or evening) than at noon. Hence the time of day is important there but not in shooting, where only temperature is the influencing factor.

Looking again at the sketches, it strikes me that if the assumptions of the conditions shown are correct, there is a way to determine whether or not refraction is the cause of the apparent flat trajectory. In Fig. 1 the atmospheric conditions are shown to be uniform between 0 and 100 yards. The relation between sights and trajectory should, therefore, be normal. In Fig. 2 the shooter has taken the position formerly occupied by the target. This places the change in atmospheric conditions between him and both the 100 and the 200-yard targets. According to the laws of refraction, if the same sight adjustment be used at the new position for 100 yards, everything else being as it should be, the bullets will strike high, for the target appears to be at B' instead of at B. For the conditions at the 200-yard range, the same conditions as in Fig. 1 will hold, but I should say from Mr. Thomas' description that these conditions would be greatly exaggerated, for the distance between the plane C-C and the target will undoubtedly be much greater than in Fig. 1. If my (Continued on Page 18)

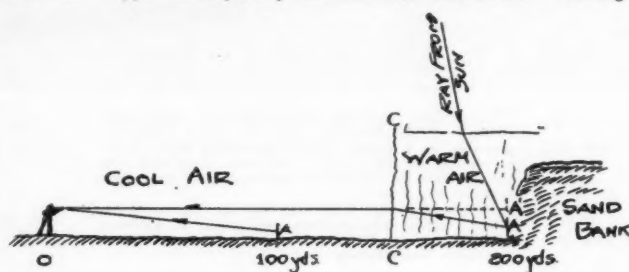


Figure 1

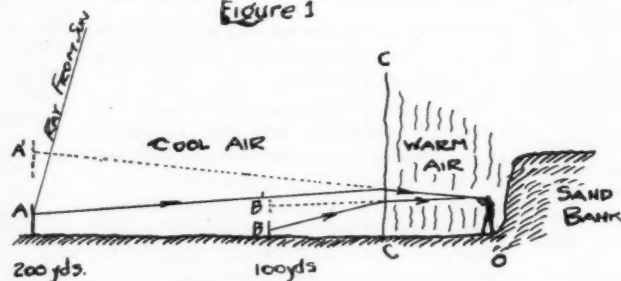


Figure 2

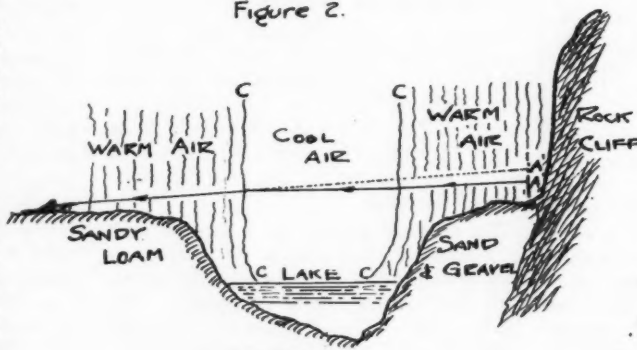


Figure 3

## EXPLANATORY:—

Fig. 1 & 2 are of same terrain.  
Solid line is path of light ray.  
Dotted line is line of sight.

A & B are actual positions of target.  
A' & B' are apparent positions of targets.

during the course of a warm summer day—naturally so as the sun became hotter and still hotter. The case is illustrated in Fig. 3. Most of the shooters—all of them in fact, as I remember—had no conception of the vagaries of the light ray, nor did I at the time (this was a good many years ago). We were at a loss to account for the phenomenon. Mr. Thomas' relation of his trouble brought it



# Seein' Things Straight

By Lt. Com. E. E. Wilson, U. S. N.

**H**O HUM! It's a dull day along the Potomac. Everybody is out of town, all the shooters are at Perry, and only one letter in the mail bag. Let's have a look at it. Shanghai, China, eh? Who do we know out there? What's this bird got to say? Here it is.

Aug. 27, 1924.

**A** FRIEND was good enough to pass along the July 1924 issue of your publication and under the title of "Seein' Things at Night," there is a page by Capt. Edward C. Crossman. Living in this out-of-the-way-part of the world, it will perhaps not surprise you that the Captain's name conveys nothing to me, but being a police officer and in addition a Police Musketry Instructor, I am taking the liberty of putting on my gun, on behalf of my police comrades all over the world and agoing a gunning for the Captain and his friend.

My ammunition is a special make and the average police officer will recognize the brand:

## "Doing 'Not Seein' Things at Night"

It is a poorly lighted part of the district and Patrolman No. 123 having just reported his section quiet, is wondering if what the Lieutenant told him was true—That headquarters had a line on him for the plain clothes staff—*Bang!*—"Gee, what the H— was that? Must be shooting on Seven Section." Running; drawing and cocking; only just round the block. "Who's that coming this way? Is it the thugs? Must make sure!"—*Bang!* "The dirty ——— he's plugged me."

## Inquiry at City Hall.

Chairman, after two days inquiry into the death of patrolman No. 123: "No. Lieutenant, you say the deceased was carrying the regular police gun. Can you tell me if it was fitted with an ivory or gold bead sight?" "No Sir, patrolman No. 123 was only an average police officer."

His uniform is folded and put away in the bottom drawer. When Mother is not too tired after her daily toil, she is proud to show it to the youngsters, but it is hard to keep the tears back when she sees the powder marks—They did not give him a fighting chance.

Now Captain, can you tell us average policemen, what would be the use of even a Diamond Bead Sight? If you have ever thought the subject out, you must know, when the other man has you covered, that you would not even see your own gun, let alone the sights.

Do you know the difference between *pot shooting* with ivory or gold bead sights and practical shooting done by the average police officer? Let me on behalf of the police, let a little daylight into you: *shooting for pots V shooting to live.*

Ask your friend, Walter Roper, if at the time he made that eight shots in a six-inch circle, standing in a shadow, with the target in darkness at twenty yards, was the target, shooting back at him?

What you and your friend do not know, is that the average police officer is well aware that this world is composed of the *quick* and the *dead*, but unfortunately for the policeman he is further handicapped by having to make certain, before he fires, what his target is made of. When you miss (I take it that you are human) with your hair-trigger-toy you probably blame the Mid-Range ammunition. The average policeman, when he misses with his regular gun and hits "Mrs. Flaherty's potted geranium on the second floor winder ledge" is asked, the following day, to turn in his badge to headquarters.

Would you like to know how much you and your friend really know about revolver shooting? Ask a stranger to fix up six surprise, man-size targets, (running, charging and bobbly etc.) have them exposed at irregular intervals of not more than one second each, at various distances of 6 to 30 feet (not yards) with the lights full on. Believe me, you have a shock coming to you and you will be "Seein' Things in their True Light."

W. E. Fairbairn,

Inspector.

Not so dusty, eh? Inspector Fairbairn wants to start a little something. If we show this to Crossman it will start a riot, so let's look it over a little bit ourselves. Seems to me I remember something about Shanghai and pistol shooting. It was an article in the *Naval Institute* published in May last year. The *Naval Institute* is a journal in which the Navy airs its views on professional subjects. Here is a good one by Commander Baum that gives a line on Shanghai and the Inspector Fairbairn.

**W**E are all more or less familiar with, and some more expert than others, in firing the Service pistol on the target range, or at a stationary object. Many chapters have been written to demonstrate the advisability of squeezing the trigger instead of pulling it. More chapters have been written to show the proper firing position, the proper grip on the handle, the correct alignment of the arm and pistol barrel, and many more hints designed to insure hitting the bull's-eye. How many of us, however, know how to use the service pistol effectively either offensively or defensively in an emergency?

Bull's-eye shooting on the target range is very pretty and requires a great deal of skill and steadiness of the hand and arm to make a good score, but all of the skill in the world at bull's-eye shooting is of no value when the expert pistol shot is confronted with a sawed-off shotgun loaded with buckshot in the hands of a determined novice, unless the said expert pistol shot is accurate and quicker with his pistol in the emergency than his less skilled adversary. All that the novice with the sawed-off shotgun need to do, is point the shotgun in the general direction of his adversary, pull the trigger whether by a squeeze or pull, and be reasonably sure that one of the buckshots at least will strike its objective.

Successfully to combat his shotgun-armed adversary, the expert pistol shot, to carry out his teachings on the target range, must take the proper standing, sitting or kneeling position, see that his forearm and pistol barrel are in proper alignment, take a deep breath, close one eye, get the sights properly aligned on his adversary's head, chest, or abdomen, whichever he deems the most vulnerable, slowly squeezes his hand so as not to spoil his aim, and have the pistol go off, not knowing the exact moment at which the hammer will fall. Is there any doubt as to which will have the best chance of success in the event of such an encounter? And yet, that is exactly the way that we teach pistol shooting to prepare for an emergency.

The pistol, any pistol, is essentially a weapon of opportunity for use in an emergency. It is the weapon with which officers, chief petty officers and some petty officers are required to be armed in landing force operations. It is the weapon with which sentries, or orderlies on dangerous posts or missions are generally armed. It is the most generally carried weapon in the Navy and at the same time, the one in whose use the least actual instruction or training is given. I do not advocate copying the motions of such film experts as William S. Hart, Tom Mix, or Douglas Fairbanks, although many valuable lessons may be drawn from the skill of these men. I do advocate proper training in the use of the service pistol along lines which will enable a man thus armed to use it effectively in an emergency.

Expertness and great accuracy with a pistol can be attained only through hard practice, but reasonable effectiveness can be attained within a short space of time by employing common sense methods and requiring a more moderate degree of accuracy. The most probable target against which the pistol will be used must unfortunately be the body of a human adversary. Therefore the training with the pistol should be at a target representing a human figure. As we engage in target practice with our big guns at a target representing the silhouette of a battleship, so ought we to engage in practice with the service pistol at a target representing the silhouette of a man. An enemy cannot, in an emergency, be expected to wear a bull's-eye as a point of aim, to make hitting him in a vital part more easy.

Let us examine into some first principles governing the pointing of the pistol with reasonable accuracy. The average person, when called upon to point at an object, can do so with remarkable accuracy. If you are skeptical, try pointing with your finger, pencil or stick at some object within easy pistol range, such as the doorknob, the inkwell on your desk, a picture on the wall or the center of an open window. Then hold your hand steady and aim along your finger, pencil or stick to see how near you have come to your point of aim. If your first attempt is awkward or un-

satisfactory, repeat the experiment several times and note the improved accuracy of your efforts. If these experiments are uninteresting, try the same ones with an *unloaded* pistol. Try picking up the pistol from the table quickly and pointing at an object, and then sight along the sights to see how near they are to alignment on the objective. Or draw the pistol quickly from the holster in carrying out the same experiment. I venture to predict that the alignment of the pistol will be within reasonable accuracy of the objective. Bear in mind that the usual pistol range in an emergency will be comparatively short, hardly more than fifty yards, and generally not more than ten yards, and that the shot that hits first, is the shot that counts most.

Such training can easily be given on board ship, or anywhere on shore, even though a target range is not available. The test of the efficiency of the training must eventually be made at a pistol range, which may be almost anywhere where there is no danger of injury to lives and property. An elaborate pistol range is not essential to training for a reasonable degree of accuracy. The most important details to be taught are familiarity with the weapon and speed in handling it. Reasonable accuracy after acquiring these details comes naturally.

While on the Asiatic Station a short time ago, it was my good fortune to become acquainted with the instructor in musketry of the Shanghai police force, and to have the opportunity to inspect and fire on the police pistol range. A description of one of the courses of instruction might be of interest. I might add that the instructor is an enthusiastic advocate of the service pistol now in use in the United States Navy and considers it the best all-round pistol manufactured. And he is an Englishman.

The most interesting of the courses consists of twenty rounds divided into six strings as follows: three rounds at a stationary target; three rounds at a swinging target; five rounds at a bull's-eye target; three rounds at a running target, single shots; three rounds at a running target, rapid fire; three rounds at varied targets.

In the first string the target is the outline of a man standing. The target is marked by lines enclosing the vital parts of the body wherein a shot will either kill or definitely disable. All hits within this area count five. The next area encloses the parts of the body within which a hit will disable but not necessarily kill, such as the arms, legs or feet. All hits within this area count four. The next and last area encloses such parts of the body as will neither kill nor disable a person, such as flesh wounds not sufficiently serious to prevent inflicting return injury. All hits within this area count three. With the target twenty paces distant, the shooter must stand with the loaded pistol in his hand at his side. At the command, "Fire," he raises the pistol without taking aim and fires at the target. A few seconds only were allowed per shot. This is repeated until three shots are fired. Then the target is examined and hits counted.

In the second string, the target represents the head and shoulders of a man. The lines for scoring follow the scheme of those in the first target. This target is rigged to be swung out

from behind a wall on hinges and then be withdrawn after a few seconds. The shooter stands about twenty paces from the target with loaded but uncocked pistol in his hand at his side. At the word, "Fire," the target swings out from behind the wall and is left in view about three seconds. The shooter must cock, raise his pistol, and fire, during the time the target is in view. He is allowed three single shots after which the target is examined and the hits counted.

The third string of five shots permit of deliberate aiming and shooting, and represent firing from the corner of a house, from behind a tree, or from inside of a window casing where it is possible to point the barrel of the pistol around the edge of the obstruction behind which one is hiding, and take aim, exposing to view only the eye and a small section of the head plus such parts of the hands as are grasping the handle of the pistol. This leaves a very small target for the adversary to fire at, at the same time permitting one to take deliberate aim at the adversary. Since the person firing is well protected from injury and view, there is no time limit for the firing of the five shots of this string. The target is about the same size and with the same circles as the pistol target used at all target ranges. The distance from the target is about twenty paces. A hit in the bull's-eye counts five, four in the next ring, three and so on. In this string the shooter takes his position behind a post and may rest his wrist on the edge to steady his hand.

The next string of three shots is fired singly at a figure representing a running target. The Shanghai police call this the "Pootung Target," because if the first shot does not hit, the man shot at will be in Pootung, across the Whangpoo River, before the next shot can be fired. The target is about twenty paces from the firing point. It represents the figure of a man and is marked with lines, hits within vital or killing sectors of the body counting five, hits within disabling parts of the body counting four, and flesh wounds three. There are no twos. The shooter takes his position at the firing point with uncocked pistol in his holster. At the word, "Fire," the target starts from behind a wall and across an opening about ten feet in extent, at a speed of a man running quite rapidly. During the time that the target is in sight, running across the opening, after the order, "Fire," the shooter must draw, cock and fire his pistol. This is repeated three times after which the hits are counted.

The next string of three shots is fired at the same target under the same condition except that during the time that the target is in view running across the space, three shots must be fired.

The last string of three rounds is fired under conditions representing the raid of a brothel. This string is fired inside of a bombproof to prevent wild shots from injuring anyone. The shooter takes his position outside of a door which leads into a dark passageway. Upon opening the door, he is permitted to draw and cock his pistol. The passageway is dark and littered with chairs, boxes or short stairs, in fact, many things to cause extreme care in walking. At the end of the passageway is another door leading into a dimly lighted room. Immediately he steps into the room he must be prepared to shoot at whatever

target he sees representing a human being. As soon as the shooter clears the threshold, fire crackers, confetti, sticks or other objects are thrown at him, someone yells into his ear, pistols are fired behind him and everything possible is done to shake his nerve and disconcert him. A target representing the head and shoulders of a man swings out from behind a wall remaining in sight only momentarily, a Pootung target slides across the end of the room, a head appears above the edge of a table, or a dummy is dropped into the room from above to represent a man springing down. Only three targets are shown and the shooter is permitted only one shot at each target. These targets are marked as previously described in five, four, and three sectors for scoring hits.

The details of this course may not be described exactly since there are no written instructions or descriptions of the course issued, and the course is frequently varied to introduce new conditions. I am describing it from my recollection of the time I fired over it. The course may be varied at will to train individuals for any particular work that is to be undertaken and may be made to fit conditions that may be encountered in the service.

The course described in the foregoing is only a very small part of the training undergone by members of the Shanghai police force, most of whom are Europeans. Other features of the training cover shooting from the pocket or cape that is being worn; drawing a pistol from a drawer of a table and firing at a target; firing at two widely separated targets with a pistol in each hand, turning quickly, drawing the pistol and firing at a target, etc. In fact, an effort is made to train the man in situations requiring the most varied "use" of the pistol. No time is spent in bull's-eye shooting for training purposes, but bull's-eye targets are available at the range for practice of those who desire to partake of this more refined phase of pistol shooting.

Generally, the pistol is carried because of its convenience, and because it is designed for emergency offensive and defensive use. Where greater accuracy and less freedom from encumbering equipment are required, the rifle is by far the better weapon to carry. The range of the pistol is necessarily short and the sight has not the finer adjustments that are necessary in a rifle for more accurate shooting. However, effective training in the use of the pistol is a much simpler problem than training in the use of the rifle because it can be made much more interesting and realistic. The range can be more conveniently located because of the lower penetrating power of the average pistol, and besides, there is less danger from wild shots, especially if the training is conducted in a well constructed bombproof.

It has been my experience that instruction in the use of the pistol is given very reluctantly in the Navy, preference being given to instruction in the use of the rifle. The reason for this is not clear. Such training as is possible with the rifle is most necessary to prepare the men for duty in landing force operations or other duty where they will be armed with the rifle. This, however, is not a good reason why we should neglect the pistol. Glance casually over the



armed sentries or orderlies on board ship and please note that practically all of them carry the pistol. The pistol thus worn may be merely a badge of authority, and if it is, a star or an arm band would answer the purpose quite as properly. If the pistol is worn to be used in an emergency, then the wearer should also have the training essential to the effective use of that weapon in an emergency that may arise at any instant.

Such a course of instruction and training as is described in the foregoing would be easy to devise, and the pistol training which is now either neglected or reluctantly given would be made interesting and very useful. To arm a man with a pistol without expecting him to use it when the emergency requires it, is silly. To arm a man with a pistol for use in an emergency, without first giving him training in its use, is decidedly unfair to the man.

I recall a story about the young man who had been challenged to fight a duel with one of the very best pistol shots in the country. One of his friends excitedly and sympathetically reminded the young man, "I have seen ——— cut the stem of a wine glass with a single shot at twenty paces." The young man asked, "Was the wine glass shooting back at him?"

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When this came out, I was sufficiently impressed to discuss the paper in a subsequent issue. Here is the discussion.

**T**HE interesting and instructive article by Commander Baum is a direct challenge to standard methods of training that no old timer in the shooting game can allow to pass unanswered. As a member of the board which compiled "Small Arms Firing Regulations, 1923" I feel it my responsibility to clear up some of the impressions which may be obtained from this paper.

The cry for "Service conditions" shooting is one that arises periodically, and periodically dies. Plausible at first blush, it is ultimately proven to be unsound. One must learn the fundamentals before he undertakes the advanced practices and "Service firing" is certainly advanced firing. In great guns we don't go to Division Practice until we have qualified at Short Range Battle Practice. No more should we go to "Pootung" until we have been to Guantanamo. The trouble now is we lack even the time for the fundamentals.

A sharp line must be drawn between target shooting and firing under Service conditions. One of the troubles in the shooting game is the desire to combine the two. The incentive of target shooting is the competitive feature. The moment the element of chance is injected, as it always is when we attempt to simulate Service conditions, then the competitive feature is lost and interest lags. The history of the National Rifle Matches is replete with the failures of novel matches because they were dependent more upon luck than skill. The fundamentals must be taught by straight out and out "artificial" target firing. Once this is done further training should be had, and the novel ideas described in the paper under discussion are an excellent example of the methods to be used. The board for revising the "Small Arms Firing Regulations" recognized this when it made the requirements for marksman and sharpshooter

straight target firing and those for expert riflemen, an adaptation of target firing to Service conditions. In the expert's course, the "slow fire" work is intended to simulate sniping; the "skirmish," the normal attack, and "surprise fire," the situation of a sentry whose beat is suddenly crossed by an enemy.

The "squeeze" which is the very basic principle of all shooting, comes in for ridicule in this paper. Important as the squeeze is in rifle fire, it is even more so in pistol fire. The "let-off" is everything. The paper gives the impression that the squeeze is a slow process. Nothing could be further from the truth. One can fire five well aimed shots in eight seconds with the old Service revolver, single-action and squeeze every shot. There are three kinds of squeeze, slow, quick and quicker. The "Small Arms Firing Regulations" recognized this and required three speeds for qualification: Slow fire, timed fire and rapid fire. They distinctly state that rapid fire involves the same principles as slow fire except that all functions are performed more quickly. When an expert takes a long time to get off a shot he does so in order to insure exact aiming, not exact squeezing. In the International Match last year at Milan, Italy, Walter Stokes, World's Champion, took fifty minutes to the last two shots and won the championship with them. He probably wouldn't waste so much time in a gun fight but I would back him any time against a "Pootung" shooter who had not first learned to squeeze. Anyone can point a pistol just as he can point his finger, but he can't shoot the pistol until he overcomes the tendency to yank. This requires much training in fundamentals on the target range where the effect of the yank can be readily seen on a target.

The comparison of a Service pistol with a sawed-off shotgun is certainly not a fair one. With pistol against pistol, however, things are different. The relative importance of accuracy and rapidity is laid down in great gun firing. The score varies inversely as the time and directly as the square of the number of hits. This is a rational rule and applies just as well to pistols. Accuracy is a result of fundamental training and so is rapidity. Let us have more training along the lines indicated in this paper but let us first qualify, at least, in the fundamentals.

**N**OW when you get right down to it, all this talk is a revival of the age-old discussion between the so-called practical man and the theorist. Each is so thoroughly convinced that the other doesn't know what he is talking about that each considers it more or less useless to argue. Nevertheless, each has a lot to learn from the other. The practical man could apply a lot of the theorist's theory and the theoretical man could well utilize more of the practical man's practice. The answer to the whole business is obvious. Every police department needs a lot of what Inspector Fairbairn and Commander Baum point out, but before they start on that they need a lot of things that Crossman describes.

Ever since we have had guns we have had the argument of accuracy versus rapidity of fire. I remember particularly the old "Evans Match" at Perry in which two teams of twelve men each started on a skirmish from twelve

hundred yards at unknown ranges. A range officer was behind each competitor and when target No. 2, for instance, was hit by Team "B", Competitor No. 2 on Team "A" dropped out. We finally got down to two hundred yards when the last competitor on the first team found himself confronted by two competitors on the other team. As he flopped down among the crickets in the grass, he realized that he had to kill two enemies before the two enemies could kill him. The odds were not 2 to 1, they were 4 to 1. And these are the odds of accuracy over rapidity of fire. In the early days of gunnery in the Navy our motto was "The only shots that count are the shots that hit." This fundamental principle applies more than ever today.

The lesson of all this is that the police of America could well afford to do a little shooting on the Pootung target, but before they try it they should learn the fundamentals of trigger squeeze. I often think of Walter Stokes and the last two shots at Milan in 1922. It took him fifty minutes to get off these two shots but both were tens and they gave him the championship of the world by two points. Two nines would not have done it. If Walter Stokes and the best policeman in the Shanghai force were engaged in a drawn battle in the dark, I would bet on Walter Stokes every time. He might not get off so many shots, but he would get off the ones that count.

It is, however, useless to argue an academic question of this kind. If Doc Calkins, for instance, were to train on the Pootung target, he might make the best all-round shot in the world, but the best Pootung shot in the world could not do much on the bull's-eye. Let us, by all means, go to Pootung, but first let us learn the fundamentals of the bull's-eye. For the police, this would mean training on the pistol range, followed by further training such as that outlined by Commander Baum. Our police can well take a leaf from the notebook of the Shanghai police after they have learned the rudiments of the bull's-eye at Perry.

To those of us who realize that proper training with the hand gun among policemen would not only reduce the percentage of mortality in that hazardous calling but would exercise a deterrent effect upon lawbreakers who now so frequently resist arrest, it is encouraging that so many of the police forces of principal cities either have established or are about to establish ranges. The turnout of police pistol teams at Camp Perry for the 1924 Police Pistol team match was also conclusive proof of the interest which is being shown in perfecting the Bluecoat in marksmanship. That this activity will grow, is a foregone conclusion. That it should grow along intelligent lines calculated to produce practical results in accurate rapid fire should be the concern of all connected with it. But this can never be done so long as those instructing fail to recognize that the skilled police shot of the future must combine the more accurate skill of the deliberate bull's-eye shot with the instinctive dexterity of the professional thug and gunman.

# The Winchester

By Chauncey Thomas

I AM partial to the Winchester rifles, for these reasons: They are safe, accurate, and durable; they are made in all calibers; they are sold at prices within reach of all; as repeaters they are more reliable than any other kind with which I am familiar; as single-shots, they are quicker to load, less liable to get out of order, and, in my judgement, just a little better than any other single-loader made. The Winchester Company has proved itself imbued with a progressive spirit, and has catered to the ever-changing and manifold wants of men of many minds and divers experiences. It is, furthermore, an essentially American concern and I believe Americans should patronize American manufacturers. And to cap the climax, the Winchester is about the only sporting-rifle that has come up to the hypercritical and fastidious scrutiny of the English sportsmen, than whom none are better judges, owing to their early education and vast experience. The men shoot wild and dangerous game all over the globe and know a good rifle when they see it. Moreover, none but the wealthy among them can indulge in such sport, the price paid for their weapons is a matter of no concern whatever, its absolute reliability and accuracy being *sine qua non* of the arm. When, therefore, the plain but thoroughly sound and serviceable Winchester, costing say twenty dollars supplants the elaborate double rifle of twenty times its value, something inherent to the Yankee rifle must be there to back it up.

"Aside from all this, memory carries me back to many a cabin, dotting a boundless plain, where upright in the corner stands the king of rifles—ever-ready death-dealer—the Winchester; or, perhaps, carelessly swung to the antlers of some monarch of the forest, or resting on those of the now extinct Bison, together with the buckskin belt studded with cartridges—in which also hangs the best hand-somest, most accurate revolver the world has ever seen—the time-tried Colts. These are *quasi* the whole, or, at any rate, the most valuable furniture that adorns the cheerless cabin; but, of their kind, they stand today paramount. On their merits the hermit occupant has been wont, mayhap, to trust his life against savage and beast—not a life the loss of which, perhaps, would be much mourned, or over which grave eloquent orators, weeping women, or frantic parents might, with untold grief, lovingly and fondly linger, but his life, his all, his scalp, his herd, and, if more fortunate than the great majority of these dauntless pioneers, his wife, his little ones, his dogs—All have been taught, by oft-repeated lessons and never-failing deeds, that his selection of weapons has been wise, for they never have failed him at the critical moment. With these weapons he may have stood against human odds, or may have lowered the ferocious grizzly, not with one or two shots, perhaps,

but by pouring in such a deadly streak of lead that nothing could stand before it.

"Swung to the wagon-bows of the erratic prairie-schooner, exposed to rain, dust, and snow, the old Winchester has dangled, magazine full to the hopper—taken down when needed, now to clip off the head of duck, brant, or grouse, now to riddle Coyote or Fox, now to fan the tail of cunning Jack or fleeing 'Swift'; now replaced in its slings without further ado. Seldom cleaned, and never thoroughly so, yet, perhaps, tomorrow the lives of the whole party may depend on one or two of these deadly weapons, whose sharp and oft-repeated reports shall ring through the air, in contrast and defiant answer to the wild war-whoop of circling, seldom-visible savages. These are some of the reasons why I like the Winchester."—From "*Big Game of North America*"—Article B, "*Still Hunting the Antelope*," by G. O. Shields.

So say we all of us, we of the Old West. This is as true today as it was thirty-five years ago when Shields wrote it. "Winchester" and "Colt" are the two names that are riveted not only in American gun history, but permanently into American history itself.

SO much is this so that its very fame has come to operate against the Winchester, such is the oft curious paradox of human affairs, for today in the lay mind "winchester"—now often spelled with the small "w"—has come to mean any rifle of any make. If one will take notice, one will see this word usage quite often today in the newspapers and occasionally in the magazines and books of fiction. The word "winchester," due to the world-wide popularity now over three generations of men of that famous make of rifles, seems almost sure to follow the trail in diction of the once proper name "Pistol." Today of course any one hand firearm, even in the Law, is correctly called a "pistol." And it looks as if "Winchester," once strictly a proper name ("Winchester" like "Pistol" several centuries ago) but today almost a common noun, will in due time become also a verb, probably also an adjective, for right today it would not be bad English to write "... and he winchestered him. . . ." just as it is today strictly correct to say "... he pistolled him. . . ." Such is the price of fame.

For a proper name to thus work itself into the very fiber of the wildest used language on earth, there must have been something tremendous behind it, and there was. It was the Winchester rifle.

"All whiskey is good, some is better than others," remarks the individually mythical but type-existing Kentucky Colonel, and it is the same with Winchesters. Some are better than others. Also some other kinds of rifles other than Winchester are better for certain purposes than is the Winchester. The lever action is not desirable in warfare, for instance,

compared to the modern bolt action, or even in the old days, to the Springfield tip-up action, the government rifle before the Krag bolt gun.

But when the modern bolt action is all done, when dirt, ice, coiled springs with frozen grease on them, cease to fire; when the Krag has become silent long after the Springfield has cooled off; when rust and unavoidable neglect has rendered useless certain and sundry makes—fine, accurate rifles under pet or normal condition; then still will boom the Winchester. Only two rifles ever made will shoot after the Winchester has become a club, the old hammer Sharps, and the muzzle loaders. Remember that Steffanson, it was, I believe, when asked what gun he would take with him again on a five-year trip above the ice circle replied, "A muzzle loader." And any outdoor man knows that he was right.

This summer I have been poking into the canons and creeping across the summits of the Colorado Rockies. Today infernal sheep bleat and stink in what was once the clear, clean silence of the timber line and farther up. I looked over the guns packed by the herders, for they must have rifles for the wolves, an occasional bear or mountain lion, and always for the knowing Coyotes, and the guns were either single shots of various ancient makes, especially the Sharps—and Winchesters. Usually Winchester carbines, .25-20 because of the cheapness and especially the lightness of the cartridges, some .25-35's, but more often than these, the .30-30.

Those men were there to herd sheep, not to clean rifles or to do gunsmithing. I did some gunsmithing for a few of them, ranchers in the gulches, meadows, and their guns were wrecks. But each and every wreck was still in active business; pitted barrels, rock-scraped and rain-rusted actions, sun-warped and broken stocks, bound with rawhide and baling wire, they still worked. In the single shot old rifles the .45-70 was the favorite, because of its "slug," as one shot was practically the last shot for that time. There were no modern high power rifles at all. Explain that the best you can. I know and they know—hence the .45-70 single shots and the Winchesters.

Me? I packed a sixgun. I'm 52 snows, as the Injuns have it, the Rockies are high and uneven under toe or heel—there is very little sidewalk travel up there—and the sixshooter was enough, at least for a man of the Old West. The New West of today—sheep above timber line—know not the sixgun, and the anti-gun laws creep over the land from salt water like crabs. Ugh.

But while reliability is the one great outstanding feature of the Winchester, it really will hit something if poked right. Two years ago—I have mentioned it before in these pages—I got mixed up with some crack star-gauged military Springfields in a Denver turkey shoot. I had (Continued on Page 19)



# Uncle Jim

By Charles Askins

**H**OBBIES have an effect on a man's life. He who has made a success of his calling, business, finance, politics, is simply the chap who has made a hobby of his business. And it is always possible that somebody will make a success of a hobby and kill himself by doing it. But a shooting hobby is just plum useless to a man, except that it brings him long life and much happiness. I am to write today of a man who followed a shooting hobby from the time he could carry a gun to four score, ten and three years, quitting because his gun had gone back on him just when he needed it.

Uncle Jim was a veteran of the Civil War, seventy-five years old when I knew him first. We had gone on a coyote drive, and at one o'clock were ready to quit. It wasn't our kind of a game, few wolves, little shooting, no sporting chance for the coyote. We were fifteen miles from home; no chance to get home unless we stuck to the crowd and the wagons. We might walk. I suggested we walk, thinking the suggestion safe, for Uncle Jim was seventy-five years old and had covered ten or twelve miles that forenoon. It wasn't safe. We walked, or I walked while Uncle Jim merely gave his long legs permission to travel. We got home at four o'clock and I went out for an hour or two on the quail, because the old soldier thought we ought to make a day of it. He never fooled me again. On principle and through habit I am a horse Indian. My legs walk only on direct orders, while I found that Uncle Jim's legs refrained from walking only when he made 'em.

I used to look at him curiously, wondering why all men couldn't have been built just as he was—six feet tall, erect, wide of shoulder, narrow of hip, weight 160 pounds, with legs having roller bearing at knees and hips. At seventy-five years, all he need do in order to cover forty miles was to take the brake off his legs. I couldn't tire him when he was eighty-five years old; couldn't make him admit he was tired when he was ninety years old, though gaunter and lighter, with hair that had turned from red to roan.

When he was close to ninety, we sat on a log late one afternoon, at the close of a fairly successful day in which the old soldier had shot very well. He counted our fifteen birds and sat looking at them.

"Charlie," he said, "what do you think of this Indian heaven? I never could bring myself to like the notion of golden streets. You reckon they'd let a man change off, if he wanted to, and go along with the Indians?"

"I don't know, Uncle Jim. The Indians might kick about any white man being worked off on 'em. You see they have been pestered a good deal with us here."

"That's so. Then again I don't know if the Indians has any good idea about what they're goin' to shoot or what they will shoot with. I asked an old Indian about it once't and it

didn't appear to be clear in his mind whether they was to shoot bows and arrows or guns—he said mebbe so bow and arrer—gun make too much noise—all time raise hell. Shucks! What'd I do with a bow—couldn't hit nothin' flyin' nor him neither. Anyhow, I doubt if they have a better bird than quail. What do you think?"

"Well, Uncle Jim, if heaven is to have but one game bird in it, I'd take the Bob White quail. I have never tired of shooting quail yet, have you?"

"No. I like to shoot quail this year better than I ever did. Only trouble is the season is so short—out before I know it. Used to be when I was a boy, back in Indiana, we shot quail all winter. That don't seem fair. Being a lad, I could a had fun all kinds o' ways, and they let me shoot all the year; now, when gunnin' is all the fun I have, they won't let me shoot but just a few days in the year. If I was goin' to live another hundred years I wouldn't mind, but they ain't nobody ever lives that long no more, do they?"

"I haven't heard of any, Uncle Jim. The doctors say they will manage to prolong life afterwhile."

"Oh, them cussed, durn doctors. Keep tellin' a man, 'Don't overdo yourself, Jim—arteries are not what they used to be.' Now how the hell would a man ever know he had arteries if they wouldn't keep tellin' him? My opinion is they jist kill a man off by tellin' him the things that are liable to kill him."

"Not worryin' about that now are you?"

"No, not yit. My father lived to be a hundred and my grandfather to a hundred and five. I don't know nothin' that can stop me from livin' as long as they did, and maybe longer. But I ain't never goin' to git enough shootin'; I can see that now. And I ain't found no country where there was quite game enough for me neither. Moved from Indiana to Iowa in 1845, because of the chickens and the ducks—shore was a lot of 'em then. But the danged war come on and I lost five years. When I got back the Dutch had moved on every quarter, and most of the chickens was gone. Ain't it hell we ever allowed the Dutch and the Swedes to come over and kill off our game?"

"It sure is, Uncle Jim. I have always thought exactly that myself!"

"Well, our own people ain't much better. When I come in here first you couldn't drive across these prairies and be out of sight of deer more than ten minutes at a time. People was afraid the game would eat up their crops. Look at it now! A few quail, and ducks that dasen't to fly closser than a hundred yards from the ground. Same danged scalawags that trapped off the chickens and the turkey are doin' it yet. Got their land posted, but you'll find a trap close to ever' patch of brush. I ain't never liked a man that traps anything. Most trappers ain't worth hell-room, let alone

room in heaven. I want to be rid of 'em for good; that's why I been asken' about Indian heaven."

"Better do all the shooting you can here, Uncle Jim, and don't take any chances on the next world."

"Don't I do that? I ain't missed a day since the first of September. But they won't let me shoot ducks in the spring anymore, and if I go out to try my gun on the black birds or crows, some scoundrel is sure to say, 'There's Old Jim Moore shootin' quail out a season'."

"The only place that would exactly suit you, Uncle Jim, is East Africa. Plenty of different kinds of quail over there, and partridges, and grouse, and spurfowl, and guinea hens, bustard bigger than turkeys, strange geese—"

"I know it. If that durned oil well pans out, I'm goin', too. I'd like to be where I could shoot a hundred birds a day—ever' day in the year. I ain't never been as good a wingshot as I wanted to be—jist from lack of practice. Lately, I ain't been able to improve any a'tall—'count of this bag limit of fifteen birds. I used to shoot a hundred chickens or a hundred mallards a day, back in Iowa; it don't seem natural that a man couldn't learn something as he goes along, but I believe I could shot as well then as I can now."

"Aren't you a bit old for Africa, Uncle Jim?"

"Old, Hell! I ain't never goin' to be any younger. This business of gittin' old is jist danged foolishness. I want to git enough shootin' so I'll be tired of it. Maybe then I'd be willin' to quit and go across to the other side and parade around in a white sheet. I dunno. I seen about everything there is to see in this world, eat about all the good things there is to eat, made love to as many pretty girls as any man ever did, and I'd be willin' to call it a day, except I never had a chance to shoot enough."

"They tell me Roosevelt probably shortened his life by that African trip."

"Well, what if he did? If he lived fifteen years in one, that's jist savin' time. I always felt that man Roosevelt had some advantage of me. He never seemed to have nothing to do but shoot, but I had to plow corn and fool away some of my best years. Now when I got lots of time they ain't nothin' much to shoot. I tell you what I'll do when I get to Africa. I allus wanted to shoot deer on the run better than I ever could. In Africa they tell me you can see a thousand bucks at a sight. I'm goin' to git me a good rifle and plenty of ammunition; I'll make 'em run and when they get 200 yards off I'll pick me out a buck and whang away at him. I'll bet I learn to hold on them bucks, now you git me."

"What is going to happen eventually, Uncle Jim, in five hundred or a thousand years, when the game is all killed down to the last jack-snipe and the last quail?"

"Well, when the game is all gone and fellows like you and me ain't got nothing else to shoot at, and people is gittin' thicker and thicker so's you can't live for 'em, they'll take to shootin' one another, now you git me. We'll make game of 'em. Maybe the blacks or some off-colored fellows in the beginning, but whites, too, in the end. I'm bettin' that'd be fine sport. You see lots of people will be flyin' then, maybe goin' two or three hundred miles an hour, maybe a mile high. Fellows like us will hide in the brush and take a crack at 'em as they pass overhead. I guess it will be just as good or maybe better than duck shootin'. Men ain't goin' to quit shootin' now you git me, jist because the birds and horned beasts is all gone. Maybe the Government would give fellers like us, which know how to shoot, a steady job of thinin' down the population—that would suit me fine."

I have room but for one more mention of Uncle Jim. He is ninety-three years old now and weakening fast. His family had asked me not to take him out shooting with me, not even to talk about shooting for fear of what the over-exertion might do to him.

"Over-exertion, hell," he said. "I'd rather have one hour on quail than one year in bed anyhow."

His son-in-law was coming down from Iowa, and he knew that Sam would take him out. He couldn't drive a car and he couldn't harness a horse, and those fine legs of his were out of training at last. He could still walk with a cane, but he couldn't carry a cane and his gun both very well. The oil well had proved a dry hole and he had quit talking about Africa, while I had quit talking about Indian heaven because it seemed too close for joking. Along early in December Sam came, and the old boy telephoned me himself to come on down with gun and dogs.

We went down to Uncle Jim's country home—the only home he recognized for he never cared anything about his place in town. He looked over the grounds with the keen pleasure of one who had not seen them in a long time. A cottonwood-lined creek meandered down through wide borders of sedge. A red squirrel whisked up a tree and into a hole in the very yard; robins were feeding on the wild grapes. One of the dogs, keen to be at work, put a pair of mallards out of the creek.

Uncle Jim led the way as of old, and Sam and I pretended some difficulty in keeping up with him. Though all the grounds looked like quail, oddly enough they were hard to find. We worked to the very far end of his land without raising a bird; the old soldier didn't seem to mind. There were so many things he wished to see. His winesap apples were red on the trees, his one persimmon tree which he had brought from Indiana was loaded, the wild plums gave a bit of red color to the sedge, and all along the creek migrating birds foraged noisily. Not a hint of frost was in the December air and we promptly shed our coats. Uncle Jim's keen eyes noted where deer had been coming to a waterhole, and he pointed out the tracks to us—one big buck, a smaller one, two does and a fawn.

At last we had hunted the creek, hunted the adjacent thicket of jack oak and sumac, finally reaching a patch of uncut kaffir corn. The birds undoubtedly had been there, for tracks showed in the dust, and many little, round depressions told where they had wallowed and scratched. An old mower with its broad tongue resting at an inviting angle tempted the sick man to sit down and rest. He told us that the birds must be in the woods beyond, and directed us to go in and find them, whereupon they would surely fly back to that kaffir corn field and he would be right among 'em.

"I ain't tired," he said, "but I want to keep myself fresh so I can hit 'em." We went on into the thick woods, all but Uncle Jim's old black pointer, Nigger, who would never hunt a step for anyone other than his master—the black dog curled himself down beside the reaper tongue, looking at his master and then after us. This was something past the understanding of the black dog for the long-legged old quail shooter had always led the way. We looked back ere we left the field. The old man had hunched himself down to a most comfortable position and was contentedly smoking his pipe.

"Do you think it is safe to leave him?" I asked.

"We will have to do as he says today," Sam replied. "I have a hunch that it is his last hunt and whatever he says we will do."

Fifty yards within the heavy cover we flushed a fine bevy in woods too thick for a shot, and sure enough they went directly for Uncle Jim. We heard his gun crack once, but no more shots came. We worked through the timber a half mile, finding yet other bevies and bagging eight quail.

"Uncle Jim has 'em marked for us and won't shoot until we get there—that is like him," Sam said.

Getting back to the kaffir corn patch, at first we could not see Uncle Jim. Then we saw him lying under the reaper tongue. Neither of us said a word for we did not know whether or not the thin gray figure in its old shooting clothes was that of a dead man or a live one.

He was alive and a slow rueful grin came over his gray face when we reached him. He had placed the stock of his gun under his head, and we noted that it was cracked nearly in two at the grip. At his side lay a cock quail where old Nigger had brought it. The veteran struggled to sit up, but fell back.

"I could get up all right," he said, "but ever' time I start the ground keeps comin' up after me. Thought I better lay still and hold it down."

"What happened, Uncle Jim?"

"Well, you see the whole flock came straight for me. I got up to shoot, but the shell must have been one of them danged heavy loads you gave me. It kicked me right back over the reaper tongue and I fell on my gun stock and cracked her. That was what stopped me—broke the old gun just when I needed her worst."

"You can have my gun, Uncle Jim."

"No; don't need it. Mine will hold out for a shot or two. I might miss with your

gun and I want to go home and tell the folks that I killed ever' bird I shot at. Head is a bit woozy, too—might have struck it on the gun stock—maybe I won't shoot no more today."

We helped him to sit up, leaning back against the tongue, finding that we had to spread his legs apart to keep him in balance. Then we took out our birds and the old man smoothed down their feathers and placed them in a row.

"The bevy ought to be right out there along the edge of the sedge," Uncle Jim said. "I can see every shot from here and that will be next thing to taking a whirl at 'em myself." In no hurry we sat down calling in the dogs, but Uncle Jim seemed to be impatient to get us at work. We fell to studying him sharply and gravely. The fall had been a great shock to a man in his weekend condition, and we knew very well that no matter how much he might be suffering he'd never whimper.

At last he said—and we had a half feeling that he was making his last will:—

"Sam, the old gun is yours as a Christmas gift—I always meant it for you. I am going to shoot hard this month, but after that I won't need it any more. Charlie, you take care of Nigger, and give the old dog a chance to hunt every day that you can. He likes to hunt as well as I do, and will soon learn to go with you." His voice trailed off, and then he broke in sharply, "What the devil are you lads waiting for? I don't feel like walking, but I want to see you shoot!"

We had started off and gone a short distance when he called softly, "Charlie!"

"Go on, Sam," I said, "he wants to tell me something that will give me the advantage over you."

I returned to Uncle Jim, and it seemed to me that the pallor of his face had become grayer.

"Charlie," he said, "don't tell Sam because he would load me in the car and take me right home. I don't want to go, and I am not going yet. My head is as clear as it ever was, Charlie, I fooled you about that, but *my legs are dead from the knees down*. No; I don't want you to stay here with me. I'd like to have one more shot at quail. If the birds are back in the brush get on the other side of 'em, and some may come this way. Let 'em come. I can see all right and use my arms fine. If one tries to come by me, I'll get him if I can."

I returned to the waiting Sam, merely telling him that the old gentlemen wished us to get beyond the scattered birds and drive them back to the kaffir corn patch. The dogs pointed in the timber, and we headed them, trying to drive the birds back to the open. Most of them would not go in that direction, and some of these we shot, but finally a bird or two drove out of the woods in the direction of Uncle Jim. In quick succession his gun cracked twice.

"Wouldn't that beat you?" Sam said in amazement. "I was sure that he was weaker than he let on, but he can still shoot."

I said nothing, but stopped to listen, for what I did not know. Presently Nigger came to us, bringing a dead quail which he placed in my hand and then (Continued on Page 14)



# Bullet Splash

By Capt. E. C. Crossman

I HAVE been considerably interested in the bullet wound argument being carried on in the "grate relijus" paper, as Barnes used to say. While I don't know a thing about the "whyness of the which" concerning that over which the brethren are disputing, it does seem to me that some of them are drawing their conclusions from incomplete or erroneous data.

A case in point is the brother who wrote concerning his steel plate experiments and noted that in the case of those bullets which failed to go through, he failed to obtain any evidence of splash of lead or steel on paper placed near the place.

If he continues to monkey around, pushing bullets of rapid habits, at hard steel plates, he is going to experience a sort of let-down feeling, like the tonneau passengers of a certain model of the Ford made many years ago, of which the sills were too light, and which, every now and then, used to drop its hinder body portion off in the road. Persons riding in such hinder portions used to enter much complaint in regard to this habit because with the general clatter of the machine, the happening passed unnoticed by the driver and the rear passengers often had to walk miles, and sometimes miss their meals and dates.

If they happened to be Arabian, of course, the two terms would be synonymous.

Like the spook which appeared to that colored person, Ham Let, as he was passing the colored graveyard late one night, I can a tale unfold as to bullet splash which might fall a little shy of freezing the very marrow in the bones of the fellows reading this story, but will bring tears to the eyes of any long-married men who wade through it.

Down at Daytona, Florida, in 1920, during the work of the ballistic station, the delights of that hectic resort of the maddened pleasure-seekers from the rural districts of Indiana and Illinois and Ohio, soon palled on us. Only those persons with a strong heart and inured to the wilder thrills could gaze safely on the thrilling finishes of the championship horse-shoe matches between the Dayton Antediluvians and the St. Petersburg Octogenarians. There seemed no less disturbing and more quiet sports going on such as the chariot race from Ben Hur and so we speedily got in the habit of spending our Saturday afternoons and Sundays out at the 6,000-meter, beach firing range.

There we had the unique opportunity of using about a quarter of a million dollars worth of equipment in such amateur experiments as came to our resourceful minds, provided we cleaned it and put it back where we got it, and didn't lose any small portions. This opportunity might have appealed to even less gun cranky parties than the fellow writing this, even if it does not sound very reasonable that a fellow doing this work with machine gun and similar stuff five days of the week,

would do the same thing for fun in his odd moments.

Needless to say, none of this valuable opportunity and time was wasted in personal shooting, because while machine rests and clinometers and measured ranges and screens were opportunities of the flying moment, it occurred to us very speedily that after all this glory had passed, we could still pull off any personal shooting that appealed to us. Wherefore neither at Daytona nor at Miami—nor for that matter, at any other period of my Army service—did I have the chance to snuggle down on my personal belly or stand up on my personal hind legs and get in some target practice. Outside of the National Matches, rifle shooting ceased to be for me.

So with our bathing suits and a lunch the family would return to, or remain at that calm and peaceful stretch of Florida beach above Ormond, and there experiment both with firearms and the rollers of the South Atlantic. It is true that our presence was much resented by two queer hermits who lived in an old shack close to this range, the same being named Grove Wotkins and Joe Bush, two persons who had withdrawn from all intercourse with their fellowmen to devote their time to deep meditation on the sins of the world and how to fit a thirty-two-inch Browning machine barrel to a Springfield receiver so a fellow could get the edge on the rest of the gang in the Wimbledon Cup.

After a while these two greybeards ceased to totter forth and shake their staves at us, and howl strange curses at us through their whiskers, and would retire to the deepest recesses of their haunt and sink into holy meditation.

The only other disturbing feature to our experiments lay in the visit of two loose and dissolute persons from the du Pont Powder Co., ostensibly sent down to view the work of the station, but really to give the rest of the du Pont Company a short vacation. These parties spent most of their time viewing the station work from a point in the Atlantic breakers situated some forty yards due east of the Florida East Coast and strange to say took more interest in the week-end experiments in which going swimming was included than in the heavier and more scientific work of the week days. The only signs of activity either showed was when one day a shark came cruising along through the breakers and evidently felt that a coating or two of this Duco stuff wouldn't affect the taste so far as he was concerned.

As I started to say some time back, one of these ideal afternoons I desired to try some bullets on armor plate. I lugged out a large piece of very hard heat treated steel and propped it up against a post which was situated in front of the door of one of the large pyramidal tents set up on the sand, and about four feet distant

from said door. As propped up the plate was precisely at right angles to the doorway.

Inside of this tent, used for storing odd's and ends, but chiefly empty then, the wife of my bosom had hung on the center pole one garment which I believe was called a sport jacket of a suit or a jacket of a sport suit—I am a little weak on such technicalities. I wish I could remember all the manifold virtues of this garment and its cost, of which I learned after that happened which did happen, shortly after the garment was hung up.

So in the innocence of my heart, having up to that time fired not more than about five hundred shots at steel plates of various sorts, I stopped up the back end of a Springfield with a cartridge of the sort I wanted to try, and I smote the steel plate grievously with the bullet from this cartridge. After examining the faint mark on the steel, I repeated the performance with another sort of bullet, and so forth and so on, up to the number of six or seven.

Then I moved the plate to where it belonged and proceeded to other business.

Presently the party of the second part, being the lady mentioned as owning a certain jacket, sought the tent and the garment to get one of the six handkerchiefs which she carries and loses to the last one, on such excursions.

The first evidence of the crime which came to her notice was the fact that the screen door of the tent presented something like one bushel of jagged holes of assorted sizes, appearing much as if it had been copiously shot with a muzzle-loading cannon full of scrap iron.

The second detail of the horrid scene which met her gaze was the farther wall of this large tent, which was, as I remember it, about fourteen feet across. This had a beautiful pattern of Florida sunbeams leaking in through this said farther wall by way of dozens of openings of beautiful and irregular design, and never put there by any tent makers. It looked more like last summer's bathing suit in which you forgot to put any mothballs, than any well conducted Uncle Sam pyramidal tent you ever saw.

The third exhibit "C" on the part of the people, consisted of the garment which hung on the center pole between the screen door pattern and the pattern on the farther tent wall.

I examined it later, when the proceedings had been closed, and the defendant found guilty on sixteen counts without recommendation, and admit that as a jacket it would have required some garment under it, a waist or something, the most of which was suitable for street wear without other covering or concealment. The false and deceiving garment which I am told the girls at times now wear, consisting of a collar and a little material in front, much along the lines of the old fashioned "dickey" would not have been considered *au fait* with this jacket. (Continued on Page 18)

# The American Rifleman

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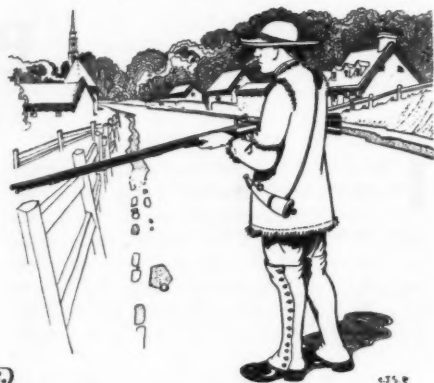
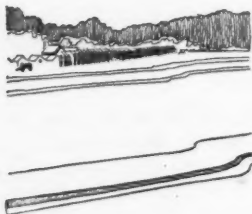
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Not all who followed Washington in 1776 wore the familiar Continental Buff-and-Blue. General Washington himself in a letter to Congress advocated the purchase, for uniforming the backwoodsmen flocking to his Army, of "a number of hunting shirts, not less than ten thousand", in support of which suggestion he said: "I know of nothing which would have a happier tendency to unite the men and abolish those provincial distinctions which lead to jealousy and dissatisfaction." With the hunting shirt were worn, to complete the uniform, a wide brimmed hat and breeches and buskins. And so the "hunting shirt", which never has been worn by an enslaved people, became a symbol of American liberty.

THE attitude of the Swiss in general toward the victories of American riflemen when they met on a common firing line the past three International Matches has been more than hinted many times. Alibis have been offered, thinly disguised and easily recognizable under such cloaks as protests against the use of the sling, to explain why the flower of Europe has failed to regain the Argentine Cup. And this feeling culminated last year in an official protest of the American record score of 1923 which protest however was hurriedly withdrawn when the United States' team so nearly duplicated the 1923 score this year at Chalons. These matters have been unpleasant to American shooters. They have not helped to build up a sentiment for further participation in International Matches based upon friendly and open rivalry. On the contrary, unless there is a decided change, our future participation in European matches is more likely to be based alone on a determination to show the doubters that the United States is still a nation of riflemen.

All this by way of preamble to the fact that a Danish observer at the Chalons meeting and later at Aarau where the Swiss National Shoot was held, set himself, by means of interviews with prominent Swiss marksmen, to epitomize the Swiss viewpoint on international shooting. Upon this he quotes Zimmerman the foremost Swiss shot, and sends it to a member of the United States' team requesting comment. Said Mr. Zimmerman:

"The excellence of international match rifles and ammunition will next year reach the approximate crest of perfection; then the American team will average 1070 and stagnation or retrogression will ensue. If other nations develop about as good equipment as the Americans only a few points will separate the leading competitors in the match, at least in the prone stage, where the average score of the leaders will run from 95 to 97. The decision will be rendered by the ammunition, not through the ability of the shooter. The skill of the individual rifleman will be a factor of minor importance in this great battle of the ordnance experts. The Swiss will not attempt to force upon other nations their desire to return to the old regulations for the international match. They will take part energetically, biding the time when the old system will be revived. The old regulations are the only sound ones, for under them no special resources are allowed. As marksmen and

as comrades we respect the opinions of shooters of other nations. Therefore we shall join in the race for technical perfection. But a reaction is coming, and with it will come a more sound apprehension of the meaning of rifle marksmanship."

By every report which has been brought back by our teams since 1920, Mr. Zimmerman's statement is quite in keeping with the self complaisant mental attitude of the Swiss, a milder though little less amusing form of the "Mine-self-und-Gott" complex of the Hun. Reading between the lines it is easy to see that the great Swiss marksman's premise is, "What is Swiss, and especially what permits the Swiss to win, is right; all else is wrong."

To suggest even by innuendo that the rifles and ammunition of the United States' team make for an artificiality in shooting while the Swiss armament is intensely practical is a delicious bit of unconscious humor, but a bit "slapstick" in character. And admitting for the sake of argument that Mr. Zimmerman's conclusions are true and that the decision in future matches will be rendered by arms and ammunition rather than shooters, it becomes all the more apparent that this will be due solely and alone to the artificiality of the international game as dictated largely by the Swiss themselves through the several decades during which they have dominated international shooting. Nor need Mr. Zimmerman be apprehensive that "stagnation and retrogression" will follow further improvement in our armament. After the United States' team shoots the 1070 mentioned by the Swiss shot, there are 130 remaining points to be gained by keeping every bullet in the 10-ring and any part of these points will be eagerly sought by our shooters who are ever working for "the possible."

In reply to Mr. Zimmerman's statement, Walter Stokes, to whom it was sent with a request for comment, has very clearly summed up the reaction of the American rifleman to assertions the Swiss marksman made. Mr. Stokes says:

"It is my firm conviction that the statement of Mr. Zimmerman is truly representative of the general Swiss attitude. Mr. Zimmerman is the leading Swiss shooter; he was their high man in this year's match and he won the standing position international individual championship in both 1922 and 1924; in addition to this I am able to say from personal observation that he stands very high in the

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admiration and respect of his fellow-countrymen. Personally I regard Mr. Zimmerman as one of the finest sportsmen I have ever met; indeed this quality is apparent in his present comments upon the international match situation. First, and with utter sincerity, he is a devotee of hard, clean competition; whatever others may do, Zimmerman will not quit the game because he is not personally suited by the rules. And in the main, I believe that this is the general Swiss attitude.

Turning now specifically to Mr. Zimmerman's statement, I find the burden of his complaint to be that the Americans have introduced into the free rifle game a refinement of technical equipment that has destroyed the sporting character of the international competitions. To me there is about this assertion a naive irony that is delightful to sense. My memory skips back four years to Lyons, where, as a crudely equipped American shooter, I was first privileged to wonder at the marvelous technical perfection and refinement of European match rifles—especially those of the Swiss. Surely at that time no one was minded to protest the American equipment, barring a debate on one item—the gun sling. After the match it was suddenly discovered that we had a great advantage in using peep sights. But these two items—the gun sling and peep sights—are the only innovations that Americans have brought into the free rifle game. Everything else—double set triggers, speed lock action, long heavy barrels, special butt plates, palm rests, carefully fitted stocks—we have copied from the European marksmen. None of these things have a place in our typical American shooting game. But when we had had a look at the equipment of our European rivals we quickly concluded to produce rifles equal or superior to theirs. We appear to have succeeded very well, though in doing so we have introduced nothing essentially new to European gunsmiths; merely we have adapted their devices to the American Springfield mechanism. The majority of our shooters still believe that European riflemen have rifles as good as ours or better. Any equipment advantage that we may have we credit almost entirely to our ammunition. And under what reasonable system of rules, ancient or modern, can any competitor be barred from striving for improvement in ammunition accuracy?

The universal use of the peep sight is a boon to shooters throughout the world. It is a thoroughly practical sight, and its optical advantages are so superior that they can be overlooked only by one who is obsessed by a stubborn, reactionary attitude. In the United States the peep sight is rapidly replacing the open sight for all types of shooting.

The principal American innovation in the free rifle game is the gun sling. The sling is useless in the standing position and its value in the kneeling position is debatable; but it is of unquestioned service in prone shooting and in this connection its use has met with such general popularity that I am confident it will never be barred in future competitions. Every shooter likes to make big scores, and it is a real and important stimulus to the game to

have one style of shooting at which others besides the champions can make scores of which they are proud. It is true that all the leaders in the international match are likely to make about the same score in the prone position, with the sling, but this fact has no important bearing upon the results of the match, for the decision develops in the difficult standing and kneeling positions, where the sling is of no assistance.

I have no fear that the free rifle game may become stagnant from the reasons suggested by Mr. Zimmerman. The kneeling and standing positions will always afford a searching test of the ability of the individual shooter, regardless of improvements in equipment.

In closing my comment on Mr. Zimmerman's statement I wish to express an opinion that the Swiss shooters are inclined to be too conservative and unprogressive. In this re-

spect they represent the very opposite extreme from the Americans, who are always eager to make progressive improvement in either their equipment or their shooting technique. I am confident that the best thing Swiss riflemen can do is to forget their day-dreams about the return of an old system which will never return, and instead of this, throw themselves whole-heartedly into the task of winning the foremost position in the spirited, progressive free rifle game of today.

Most rifle shooters will feel that Mr. Stokes has been more than fair—even charitable. In short, Mr. Zimmerman's conclusions have the unmistakable aroma and are full of the holes by which is instantly recognizable that well-known product of his country—Swiss Cheese.

## The Hope of Middle Aged Marksmen

### By Henry Walter Fry

HERE are just a few comments that I should like to make on Mr. R. V. Reynolds' article "Beating the Age Handicap" in THE AMERICAN RIFLEMAN of June 1st. He draws quite a touching and interesting picture of the middle aged or elderly rifleman, cut off from the principle military rifle competitions by the loss of that flexibility of eyesight which is the especial prerogative of the young. And yet, without knowing it he has indicated the remedy for this sad state of things in an article which takes it for granted that the middle aged marksman is, by reason of his age, deprived of any chance of winning in military rifle shoots against his younger competitors, to use his own words, "the average man, however, must figure out that sooner or later he will be cut out of such events as The National Team Match, etc." Now I quite agree with him when a little before this he says, "Their eyes cannot possibly see the back sight, the front sight and the distant target all at once and sharply. Glasses cannot help them." That's true enough, glasses cannot. But there is something that will as Mr. Reynolds shows a little later when he says of the peep sight of the .22 repeater close to the eye that "it cuts out the fuzziness and dimness," which it most certainly does. The curious thing is that he does not see the remedy which lies right in front of his nose, staring him straight in the face, which is with the open military sights, to use a peep disc close to the eye but no part of the sights for the purpose of clearing up the blurred appearance which military sights present to the middle aged shooter. This device, which is known as the orthoptic, has been known and used by English military rifle shots for the best part of a half a century and it seems to me a most amazing thing that the use of it should not have come across to this side of the Atlantic.

The orthoptic disc is usually mounted in the frame of an ordinary pair of spectacles,

though some men prefer to have it attached to a cap or hat brim. It certainly does what Mr. Reynolds has claimed for it, cuts out the blur and haziness from the appearance of open military sights and helps to put the middle aged shooter somewhere on a level with the younger generation and without them for both young and old target shooting with open sights by artificial light is for most an impossibility, while for pistol shooting at night in a gallery I myself find the orthoptic disc absolutely indispensable. Before me as I write is an English catalogue of riflemen's requisites of all kinds, for as England for the last sixty years with her many volunteer rifle ranges and her great annual rifle meeting at Bisley, has been far nearer the ideal of a nation of riflemen than America, so her marksmen are far more generously catered for than their American brethren and not only supplies her own people with rifle accessories, but exports many of them to this country. This catalogue contains quite a variety of orthoptics, some with six different sized apertures, others with an iris diaphragm to expand and contract the aperture at will, some arranged to have a small lens suited to the shooter's eyesight fitted behind the aperture and set at the same angle as the line of vision, some in spectacle frames and others to attach to a hat brim and of course at a variety of prices. But a man who wears glasses can make a perfectly efficient orthoptic by taking a piece of sheet tin one and a half inches long by one inch wide, bending one edge to hook over the lens in front of his shooting eye and piercing a small hole about the middle of a size suited to his requirements. For daylight quite a small hole can be used, for indoor shooting at night a larger one is needed. For the man without glasses the disc can be attached to his hat brim by bending the top edge at right angles and fastening it with an ordinary brass paper clip pushed through a hole in the bent edge and the brim of the hat or cap.

# Vision and Target Shooting

By C. Wynn Wirgman, M. D. London, F. R. C. S., England, T. D.

**A**TTAINMENT of a high standard of marksmanship results from a combination of physical qualities to which must be added certain mental characteristics as well. The public believe that good eyesight is the one great factor, but in this they are not quite accurate. Ability to see the object aimed at is certainly necessary, but not perfect vision. Fatigue of the eye, I think, and not bad definition, is the main cause of the difficulty in scoring well for a number of consecutive shots, as required in present-day competitions. I have had the opportunity of examining the eyes of many of the Bisley competitors, and it is upon the observations that this note is based.

## THE USE OF THE EYES IN SHOOTING

Many of the younger men, although not emmetropic, do not feel the need of glasses so much, because fatigue is not so easily felt in youth where the application is not constant and intense. In Bisley shooting there is an interval for rest between each shot, possibly as much as two to three minutes when three competitors are firing at the same time.

In shooting two points have to be observed and aligned, viz., the mark and the foresight. In old days one would have added a third, the backsight. Nowadays the aperture sights has made this an automatic part of the alignment, and incidentally has increased the ease and rapidity of aim and shooting to a very great extent. It has also aided those with defective vision by diminishing the cone of rays. The average size of aperture used is 0.05-inch to 0.08-inch, or even in some cases 0.1-inch.

The majority of shooting men at the moment of firing focus the tip of the foresight, which, in the short Service rifle, is approximately 32 inches from the eye. Before the final pressure is applied the attention is concentrated on maintaining the relative position of the point of aim and the tip of the foresight. I say point of aim advisedly, for some men take what is known as "a six o'clock" aim, i. e., the tip of the foresight just below the mark, others aim at the top of the target, and others at the bottom. The eye, therefore, while aiming is alternately relaxing and accommodating, finally settling for a fraction of a second in partial accommodation. It can, then, be readily understood that errors of refraction tend to cause fatigue in older shots, particularly on sunny days or when many shots are fired consecutively. Add to this the strain of using a telescope to mark the "spotting disc" and to judge the wing by the mirage, and we see the main value of the correction of faulty refraction is not so much to see the object aimed at well, but to put the

eye under the best conditions for hard use.

## CORRECTION OF VISUAL DEFECTS IN SHOOTERS

In prescribing glasses the point to which I wish to draw attention is that an ordinarily centered lens is not advisable, because in the position assumed when firing the eye looks through the upper and inner quadrant of the lens. (The match rifle shot who usually assumes the supine position is not in question, only the Service rifle user.)

In the prone position the body is carried well away to the left, so that the head is inclined to the left also in the act of looking at the mark. The face is inclined at a more or less acute angle to the ground, and the right eye is slightly farther from the target than the left (in a right-handed man). This necessitates the line of vision passing, as has been pointed out, through some point situated in the upper and inner quadrant of the right lens, and, if no alteration of center is mentioned in the prescription, a prismatic and curved image is produced. To counteract this it is necessary (1) to raise the frame; (2) to center the glass so that the line of aim and the optical center coincide; (3) to bring the face of the glass parallel in the vertical plane with the target.

Theoretically the shooting glass should be angled to correspond in the horizontal plane also, but in practice this is hardly needed. It will be found that an angle of 10° to 15° back from the vertical is required to fulfil (3). An angling joint can be used for this.

The question of the lens employed for the left eye is also of some importance. As most men shut the left eye while aiming, it might be thought that a monacle would be most convenient (with due provision for the correct axis of any cylinder used). Most men use the left eye for telescopic purposes, as mentioned above, and for this a normal centering is sufficient in a toric lens. Seeing, however, that whether the normal distance between the pupils is preserved in the centering or whether the eyes are supposed to be used independently, the optical centers and the pupils will not correspond when the subject is walking about. It is as well to warn him to wear the glasses only when in the shooting position. With a strong minus lens the decentering causes the lower edge to be very broad, and it is as well either to order a lens smaller than usual in diameter or to cut away the lower half. With some types of aperture sight the latter is, in any case, an advantage, as the recoil sometimes brings part of the sight in contact with the base of the frame.

The glasses for big game and game bird shooting need not, I think, be brought under the above rules. Shots with the sporting rifle

are not always taken in the prone position, and in any other position the eye is not rotated so much away from the center of the frame; while the shotgun user needs certainly to see his mark, but his alignment of the gun upon it is dependent very slightly on aim. Instinctive muscular control directs the barrels just as in revolver snap-shooting. The proper fitting of a shotgun to the individual's anatomical construction is nine-tenths of the making of a good game shot. In the military rifle no more than a certain alteration in the length of the stock is possible.

Much remains to be learned of the physiology. The causes of bad shooting are legion, and it is not always easy to assign the proximate cause. On the whole I am inclined to think that vision is by no means the chief factor in the equipment of the great shot, but is only one of many. [Reprinted from *The Lancet*, July 12th, 1924.]

## Uncle Jim

(Continued from Page 10)

turned as though asking whether or not to go back. I wondered if the old man had sent him with the quail, but thought that Nigger had come of his own accord for I had hunted with him in company with his master many times. "Sam," I said, "the old hunter has gone at last."

"What?"

"Yes; that is what it means. Nigger knew, and that is why he brought the dead quail to me."

We found Uncle Jim across the reaper tongue with his head down and his feet cocked up in the air, where the gun had driven him when he tried to rise. I haven't any doubt but what he had seen the result of his shots, for his face was smiling in complete content. Yes, he was quite dead.

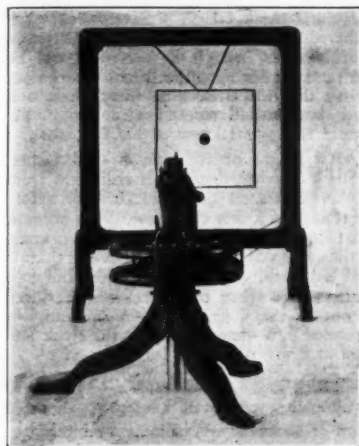
"He knew it was comin'?" Sam asked.

"Yes; he knew it might be only minutes. It is just as well, isn't it, Sam?"

"Of course!" said Sam.

Maybe a quail hunter could find no better way to die; maybe he went straight to the heaven of the good Indian—I don't know—but wherever straight shooting men go, Uncle Jim is there. Nigger is dead too, after serving me well for a couple of years, and I buried him under a walnut tree hard by where Uncle Jim made his last shot, where the quail come to turn the leaves and the red squirrels chatter as they cut the fruit above. They carried Uncle Jim away and buried him among long rows of dead soldiers, but if he'd had his way or I'd had mine, he would be there by the side of Nigger, where the red deer stand in the shade after drinking in the creek, where the mallards drift by in a springtime freshet, and the summer call of Bob White rings clear and sweet at peep o' day.





Cut No. 1

ONE of the interesting demonstrations which were held at the Camp Perry ranges during the National Rifle Matches was the new triangulation machine, which is the invention of Mr. Steven Nagy, of 41 William Street, Ossining, New York. The machine when in operation is to teach the rifleman the art of grouping shots on targets, and offers a very practical and interesting training in the form of an indoor entertainment.

One of the best and oldest methods in preliminary training is the method of triangulation, widely used in the United States Army and Marine Corps, that is, the one with the rifle on the box stationary and the distantly-placed target and man with a disk to move it about until his sights are aligned with the bull's-eye, and after marking through the center of it with a pencil which will make a mark on a sheet of paper. Now by repeating this operation three times which will result in three dots on that same sheet of paper and by connecting the three points by imaginary lines, the result is called triangulation.

This method, however, is tedious and requires a lot of patience on the part of the operator and his assistant. Therefore, instead of encouraging men in rifle shooting, this method causes them to become dissatisfied and to neglect this very important phase of the training which is probably the best way to prepare a man for successful range shooting.

To make this method more interesting and to encourage rifle shooting, Mr. Nagy, as a member of the New York National Guard, conceived this electrical device, as seen on the accompanying pictures. The machine consisted of two parts: Rifle Rest and the distantly operated Target Frame with a movable disk or target, (shown in Picture 4).

The Rifle Rest is first set up with a rifle placed in a horizontal position and away

## "Triangulation"

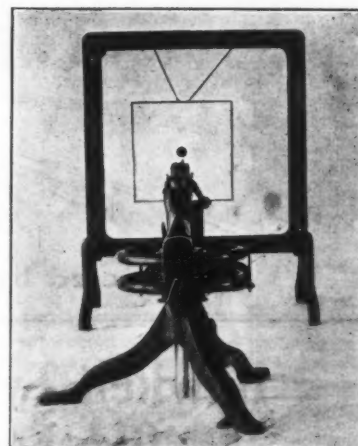
### By David North

Cut No. 1—The Nagy device before the sights have been aligned on the target.

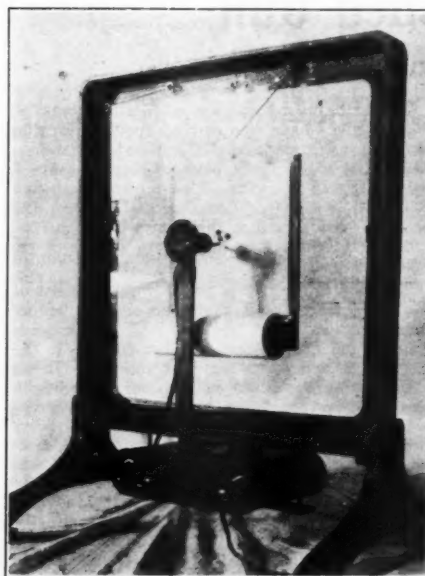
Cut No. 2—The device after the marksman has, by manipulation of the wheel brought the sights and target into alignment as he sees them and is ready to press the button to register his "shot."

Cut No. 3—A rear view of the target frame showing the registering needle with the three holes, forming the triangle considerably enlarged.

Cut No. 4—The entire device in use.



Cut No. 2



Cut No. 3



Cut No. 4

from the target about from 10 to 50 feet. The target is connected with the rifle rest by means of cords which operate the movable disk or target. The man desiring to operate the device assumes the prone position at the

rifle stand and grasps the wheels (as shown in Picture 4). By moving the wheels both together it will move the disk or target up and down, and by moving each wheel in the opposite direction it will move the target to the right or left. In this fashion the disk can be moved around until the sights are lined up with the bull's-eye (as seen in Picture 2). As soon as this has been accomplished, the operator presses a button which is conveniently located beneath the wheels. The pressing of this button will cause an electrical punching device to punch a hole on a sheet of paper provided on the back of the disk (as shown on Picture 3). By repeating the moving of the wheels, it will offset the disk from its position (as seen in Picture 1). By again operating the wheels, as desired, the disk can be moved around until the sights are again lined up with the bull's-eye, and again press the button and record a second hole on the sheet of paper. Then he offsets the target again, and repeats the operation the third time which will produce three holes on the sheet of paper and complete the triangle.

A very great advantage of this device is that one man can operate it all by himself without the aid of an instructor or coach. By doing his own disking, the results obtained, good or bad, cannot be blamed on his assistant, as has been done in the past with the old method.

It is believed that the use of these machines will be so popular that they will increase the interest in rifle training and rifle qualifications through the novel and attractive means of the operating the device, which automatically makes it so interesting to the men. The use of this device which is more like a parlor game and, at the same time instructive, will no doubt promote rifle shooting in general, not only amongst men in the service but also among the several thousand riflemen affiliated with the many civilian clubs.



Conducted by Capt. Jerome Clark

## Hawken-Type Rifles and the Old-Fashioned Gun

By Stephen Trask

**O**F ALL the percussion precision rifles which were made and used in this country between the discovering of the fulminate ignition principle and the passing of the muzzle loader, the Hawken was admittedly the best; but there were other high grade rifles of closely similar pattern made and sold which were close parallels of the Hawken but of which little has been recorded.

Just as one thinks of the flintlock Kentuckys as being the work of such master smiths as Ferree, Lefevre, Leman or Drepperd, so the student of firearms history has come to think of the Plains rifle or late percussion Kentucky as being best represented by the handicraft of Hawken. Recent researches into the history of the early Pennsylvania rifle smiths, however, has proved beyond peradventure of doubt that, while Ferree, Lefevre, Leman and Drepperd are entitled to all the credit that has been given them there were literally some hundreds of other gunsmiths working during the flintlock century whose mechanical skill and ballistic knowledge loses nothing in comparison with those qualities possessed by these acknowledged master smiths.

If the entire truth were known, and some day it may be, in as much as the present trend toward the collection of all classes of American bids fair to continue, skilled gunsmiths were working during the percussion period in many localities, their product naturally in most cases being limited and now largely lost to posterity. It is a matter of record that descendants of the Leman, Goleher and Henry families continued to manufacture rifles long after the flintlocks, upon which their reputations were based, had passed into the limbo of the obsolete.

From time to time in firearms sales and occasionally in collections there will be found fine percussion rifles the workmanship of which testify to the skill of the smith even though the name on the barrel is of small significance.

Such an instance cropped up some years ago when David K. Long of Brooklyn picked up what is a close counterpart of the best known of the Hawken rifles but which was the produce of a Mississippi gunsmith. Describing this rifle in *Shooting and Fishing* in 1896, Mr. Long said:

"This rifle in my opinion eclipses any muzzle-loading rifle I have seen or read about. The rifle in question was made by J. Coulthard, of Natchez, Miss., and is the finest piece of workmanship I have ever seen in a rifle. I have owned two fine Ballards—a .45-100-550 patched and a .40-63-330 patched—and therefore think myself capable of judging, as these two guns were of the finest grade.

"To look at the rifle, a novice would say it had just been made, as it shows no sign of having been used, every part looking new. The barrel is octagon and finely blued, not browned, as in the old muzzle-loaders one sees now and then. It has a patent muzzle, is .40 caliber, and 29 inches in length, exclusive of the breechpin. It is fitted with a patent breechpin, the threads of which are bright as new. The breechpin is of fine case-hardened steel, and covered with the finest engraving. The tang is also case-hardened and fully engraved. The hammer is completely covered with the finest of hand engraving, as is also the lock plate, trigger guard, buttplate, and all screwheads. The patch box is also covered with the finest scroll engraving. All of the above parts, instead of being of brass, as is usually the case, are of blued steel.

"The buttplate is not one of the scooped out pattern, but is on the same style as a .22 caliber Ballard that I have. The stock is of the finest curly walnut, polished and varnished, and the grip is checked in the finest possible manner. The action is fitted with double set triggers, and I never handled a pair that were as fine in touch as these are. There are two sets of sights, a hunting set, composed of rear buckhorn elevating and front knife-blade sight; also a target set, composed of rear folding graduated peep that screws on the tang and a long hooded globe front sight. The rifle weighs exactly ten pounds and the balance is perfect. The length of stock from front trigger to hollow of butt is 13½ inches, which is just one inch less than the Hawken rifle that Mr. Kephart has.

"When I took out the breechpin and looked through the barrel for the first time, I was surprised to find that the rifling was cut on a gain twist, starting gradually at the breech and ending quickly at the muzzle. Another peculiar feature is that it is choke bored, which can be easily noticed when pushing a tight-fitting grooved bullet from breech to muzzle. The condition of the rifling is first-class in every respect and looks as though it had just been cut; no pits or rust spots. It is six-grooved, lands and rifling being same width. The rifle is fitted with a cleaning rod under the barrel.

"The rifle, no doubt, was made to order and cost \$75, if not more. I purchased it a short time

ago of a dealer in a second-hand goods in New York City, and think I have secured a relic that cannot be duplicated. I wrote to Benjamin Dixon, of Natchez, who is a gunsmith, and he informed me that Mr. Coulthard had died before the war, so the rifle is at least forty years old. He stated that he had worked with Mr. Coulthard several times and knew of his fine work.

"The total length of the rifle is 49¼ inches, drop of stock 3 inches, distance of rear sight from the nipple 7 inches. I neglected to state before that the stock has a fine cheekpiece. On account of the patent breech the rifle can be taken apart in less time than it takes to tell. All that is necessary is to push the pin to the left and half cock the hammer, when the barrel may be lifted up and out as easily as a modern shotgun. It can be carried in a victoria case, as the stock and barrel are of nearly the same length."

Writing about the same time, "Hawk Eye" whose comments were well known to the past generation of shooters gave some very interesting facts in connection with the muzzle loading American rifle. His writings on this subject were called forth by attacks upon the old percussion weapon by certain advocates of "light, well-balanced rifles" who aroused "Hawk Eye's" ire by terming the percussion rifle buttplate "a crescent-shaped atrocity," by declaring that its prismatic octagon barrel "made it balance like a crow-bar" and by charging that its general model was "of that ancient and horrible pattern beloved by the late Daniel Boone." He said in part:

"For myself, I confess to both respect and admiration for the old-fashioned muzzle-loader, and to a belief that its model was almost perfect for the kind of work for which it was designed.

"It is not true, however, that these rifles were all nearly alike. There was the greatest possible variety of weights, lengths, and calibers. I have seen in one rack over the door of a frontier cabin, rifles ranging in weight from five to sixteen pounds, in length of barrel from twenty to forty inches, and in caliber from less than .30 to about .50. As rifles were all hand made, and were generally made to order, every man could have a weapon to suit his own ideas, and if at length something like a standard model was developed it was only because experience had proved that model to be the best.

"Before discussing in detail the characteristics of old-fashioned rifles it seems necessary to speak of the style of hunting which was done with them. The American frontiersman was a still hunter, and prided himself greatly upon his skill in stalking game, but it is also true that he hunted for meat, and considered it perfectly fair to shoot from a rest if he could obtain one. But this only amounts to saying that he was an all-round rifleman, accustomed to shooting in all positions and at all practical distances. He prided himself greatly in his skill at off-hand shooting and his quickness of aim.

"I remember well the ridicule with which I was greeted when a boy if I took long aim at an object, and how often I was told to raise the rifle with a quick but steady movement, and to fire at the instant when the object to be hit first crossed the line of sight. The frontiersman knew perfectly well that game, or even life itself, might often depend upon the quickness of his aim.

"But great as was his regard for quickness, his regard for accuracy was still greater. Such phrases as 'accurate enough for hunting purposes' were entirely unknown to him. Absolute accuracy and deadly certainty were the qualities which he required in a rifle, and no rifle which did not closely approach this ideal was considered of any value. The muzzle-loader could not be quickly reloaded, and its first shot must be effective. Game was often scarce and ammunition always expensive, and the twelve-year-old boy who missed with half his shots at game was in



great danger of having his jacket tanned when he got home—as one at least of your readers can testify.

"Keeping in mind the kind of hunting for which it was intended, let us now consider carefully the model of the old-fashioned rifle. All such rifles had double set triggers and octagon barrels, and nearly all had the crescent shaped rifle butt. Rifle barrels were generally long, were often heavy, and were seldom tapered. The bore in the later rifles was usually rather small, the rifling always slow, the bullet light and cast from pure lead, yet larger bored rifles using heavier bullets were in use on the plains and among the mountains. Except in this section of the country elevating sights were almost unknown, and the round bullet was generally used for hunting. Bullets were loaded with tight patches of cloth or leather; the powder was fine and quick, and careful experiments were made with each rifle to determine the most effective charge. The accurate range of these rifles did not usually exceed 200 yards; but the trajectory was extremely low, the accuracy almost perfect, and the soft bullets very effective on game.

"I have already said that the use of the double set trigger was universal. It was the custom to set it so that the rifle could be discharged at the slightest touch; and it was considered a serious defect if the triggers would not set "fine." An old-fashioned hunter would have been entirely unable to understand why any sane man could want to shoot a rifle with three pound trigger pull. His theory was that great accuracy and quickness at offhand shooting could only be attained with a light trigger pull, and modern experience only serves to confirm his opinion. If our offhand target shooters were allowed only two seconds in which to aim for each shot, the advantage of set triggers would be even greater than at present. Set triggers are not convenient on repeaters, but it is sheer nonsense to say that they are not practical for hunting. The man who considers it sportsmanlike to blaze away at game as long as it is in sight at the rate of a shot a second, and trusts to luck or Providence for hitting it, does not need them, but they are still useful to the man who takes steady aim and shoots to kill.

"The octagon barrel was used largely because it was fashionable, and men's eyes had become accustomed to it, so that a rifle with round barrel looked queer to them. It was also convenient to be able to distinguish a rifle at a glance from that despised weapon of the old-time pot hunter, the shotgun.

"Barrels were usually long because, with the charges in use, such barrels were much more accurate and powerful. They had, also, the advantage of greater distance between sights, and could be held more steadily in offhand shooting. No one wanted a rifle to balance like a shotgun. The old-fashioned rifleman always took aim, and never pointed his gun by instinct. His motions were steady and usually graceful. He required a second or two for taking aim, and seldom or never shot with the lightning-like rapidity of the expert shotgun man. He usually shot with extended arm in strictly offhand position, but with heavy rifles often used the bent arm or breast rest position. The recoil of his rifle was very light, and the crescent-shaped buttplate was used to prevent the butt from slipping on his arm or shoulder. It was considered a mark of laziness or a confession of weakness to carry a light rifle; but many such rifles were made for boys and women, and long rifles with light barrels were not uncommon in the hands of men. Rear sights were nearly always set well forward on the barrels, and buttstocks were usually slender and rather long, and had considerable drop. A fifteen pound rifle was considered heavy, and a six pound rifle light, but the former would excite less comment than the latter. The small bore and the big bore cranks disputed just as fiercely then as now.

"A rifle was considered overcharged if it kicked at all heavily, and it was thought impossible with

such loads to do accurate shooting. The most skillful race of hunters and woodsmen who ever lived used charges lighter than those which Chelan condemns as ineffective, and used them from deliberate choice in work where life itself often depended upon the deadly accuracy of their weapons.

"The old-fashioned frontiersman is almost as nearly extinct as the buffalo. When the railroads pushed ahead of civilization his occupation was gone. The territories are filled with young men from the East. We still have sparsely settled regions, but in the old-fashioned sense there is no frontier. But the frontiersman's weapon is still worthy of study. Rusty and useless it hangs upon the wall, but at sight of it the eye grows dim with thoughts of boyhood days among the northern woods and on the plains, and with memories of stalwart forms which have passed away forever."

## Notes from the Sale

BY "J. C."

THERE were some guns sold at the last sale at the Walpole Galleries which were of unusual interest to shooters as they were serviceable or supposed to be. One was a double barreled Colt rifle in 45-70 caliber—the only one which has ever come to light as far as we know. This gun would be a fine weapon for any American game.

Another piece was rather unique and would have made an ideal weapon for a trapper or fisherman. It was a superimposed bolt action gun made in Paris, the upper barrel shooting a small shot cartridge of 38 caliber and the lower a 22 rifle.

There was also one of the high powered German air rifles and a modern Swiss cross bow fitted with globe and peep sights—a reproduction of the bows of the sixteenth century. As we have not received a priced catalog it is impossible at the present time to inform our readers of the prices anything brought.

This sale also contained a collection of about two hundred old-fashioned bullet molds of every conceivable caliber; and several good old target rifles in percussion which are getting very hard to pick up in shooting condition. The present generation is hard to convince of the splendid accuracy of some of these old rifles when they are properly loaded, with round ball and patch and some good old FFFB anthracite. The ammunition is still obtainable as the Winchester and other cartridge companies are still making percussion caps as many of them are still used in the mountain districts of the South.

A well known collector recently received a letter from a man in the mountains of Oregon asking him to ship him some gun flints and volunteering the information that he and also some of his neighbors were still using flint lock rifles as any other ammunition was too hard to obtain.

It is interesting to note that Europe also has many users of percussion guns and pistols and in the city directory of Paris there are advertisements of accessories such as ramrod worms, nipples and patch cutters and in one case an armorer who makes percussion target pistols—these ads appear in the 1922 directory.

There is no finer sport than shooting one of the old long barreled rifles known in South Carolina as pea rifles. These guns had barrels about 42 to 44 inches long and took about a 30 caliber round ball. A few were made in the North, but most of them were made in Virginia, Kentucky, and North Carolina. Such a gun was described by Horace Kephart in his "Old Time Shootin' Match." They are about gone and it is very hard now to find one that has not been rusted out. However, one is picked up now and then

that is in first-class condition, and for offhand work at up to 60 yards they are hard to beat with a modern rifle fitted with a scope, because there is such a long distance between sights and the rear sight is far enough from the eye to bring both sight into perfect focus.

\* \* \*

## Private Armories

BY "FRIZZEN"

GLANCING today over the Army directory the student of things military will find but one government manufacturing center listed as an "Armory"—Springfield.

The great chain of Massachusetts shops where the present Army rifle is produced, is the last of what at one time was a number of such manufacturing centers—both of government and private ownership—devoted to the production of military small arms, and which now live in recollection only when their official stampings are encountered upon the locks of weapons of a day long gone.

In the beginning there were two principal government owned Armories—Springfield, where the bulk of the early United States military muskets and pistols were made; and Harpers Ferry, where the Harpers Ferry muskets and the Hall breech-loaders were produced. These armories were established by act of Congress in 1808. Prior to that time our military arms had largely been obtained on contract. The act which established Springfield and Harpers Ferry however carried a provision requiring the payment of \$200,000 annually from federal funds in the United States Treasury for six "Private Armories" which were recognized that year. In designating these private armories, there were selected from among the most prominent early American gunsmiths these men: Asa Waters of what is now Millbury, Mass.; Nathan Starr of Middletown, Conn.; Simeon North of Middletown, Conn.; Eli Whitney of Whitneyville, Conn.; Henry Deringer of Philadelphia; and Lemuel Pomeroy of Pittsfield, Mass. To these men long term contracts, renewable from time to time were given, and such contracts continued until about 1840. In 1845 this system was suddenly abandoned.

The firms operating these private armories were paid, for their work, very little more than the actual cost of turning out government type arms as established by the records of Springfield and Harpers Ferry.

In addition to the output of Springfield, Harpers Ferry and the six private armories whose output assured federal troops of all the arms needed, contracts were made with other manufacturers to supply the militia. Among these firms were: W. and I. I. Henry of Pennsylvania; Goetz and Westphall of Pennsylvania; John Miles of New Jersey; Winner, Nippes and Co. of Pennsylvania; Waters and Whitmore of Massachusetts; Ethan Stillman of Connecticut; Daniel Gilbers of Massachusetts; French Blake and Kingsley of Massachusetts; I and C. C. Barstow of New Hampshire; Wheeler and Morrison of Virginia; Oliver Bidwell of Connecticut; O. and E. Evans of Pennsylvania; Stephen Jenks and Sons of Rhode Island; R. and C. Leonard of Massachusetts; A. and P. Bartlett of Massachusetts; Rufus Perkins of Massachusetts; I. and N. Brooke of Pennsylvania; W. and H. Shannon of Pennsylvania; and Sweet, Jenks and Sons of Rhode Island.

Not only from the private armories but also from the recognized contractors many thousands of military weapons, both muskets and pistols were obtained by the government during the two score years of this activity and some of these models now are quite rare and are eagerly sought by collectors of antique arms.

Arms on the first of these contracts, delivered in 1812, numbered approximately 50,000 weapons.

## Bullet Splash

(Continued from Page 11)

The general impression you got from it was that the wearer had been engaged in serious controversy with a wild cat and had picked the wrong wild cat. The only difference lay in the fact that practically all of the four-score and ten holes were clean cut, showing that whatever made them had been sharp edged and traveling at considerable velocity.

Needless to say, the owner of the garment, with that marvelous intuition of the feminine mind which beats our well trained logic, leaped all of the slow steps by which you and I would have reasoned out this crime, and arrived at the solution in one bound.

It is also not necessary to tell you, as a married man, that the oration to the jury, which brought out even those two annoying and totally inconsequential hermits with foolish grins on their irritating mugs, began with those good old historic words so familiar to us:

"Well, of all the —."

I present this case, therefore, as one instance of the fragments of a bullet or bullets, going somewhere, and so far as anybody knows, still going at this writing.

In a more than usually violent stage of my gun cookooness I once did a lot of firing, several hundred shots including the misses, at steel plates from muzzle to seven hundred yards, the inspiration or incentive being some armor piercing bullets just designed by Captain Clay of our Army. The material used consisted chiefly of a half-inch steel plate about eighteen inches in diameter and a quarter-inch plate about thirty-six inches across, the heavier one being hit up to three hundred yards with all manner of rifles; the thinner one up to nearly a half mile. Incidentally if you hang a three-foot quarter-inch steel plate in the center of a long range C target, you don't need any marker as long as you do not stray off the plate.

The only drawback was that the parties living around the range thought it was Sunday, and started off for church and that bell, where ever it was. None of my rifle club assistants were troubled this way, however, some of them, like one party from Alhambra, had never been near enough to church to know that churches had bells on them.

As I used everything in the steel test from an elephant gun down to the .22 Hi-Power, and from armor piercers to soft points, I arrived at some conclusions concerning steel work—and bullet energy.

A queer phase that appeared was the fact that the cores of the armor piercing bullets of any make, from the .25 Italian armor piercer up to the German anti-tank gun which I saw being tried later at Frankford Arsenal, had a tendency to weld to the steel of the plate. I reach this conclusion because in so many instances the core got nearly through the plate and there stuck.

Normally, if a bullet of this hardness and form got half way or most of the way through something, it would go all of the way, because most of the work had been done in displacing the impeding medium. The large percentage

of cores—the hardened inner bullet of the armor piercer, made of heat-treated steel such as Firth sterling or tungsten—sticking through the back of the testing plate persuades me that some such process as a welding is going on because the mere friction of steel plate against core with hole already punched would not often hold the core firmly when it was two-thirds of the way through.

The deckle-edge hole with edges raised around the entrance of the bullet, referred to by one gentleman is evidently a straight flowing of the steel under pressure. One plate of three-quarter-inch mild steel in my possession, hit by a sporting bullet from a .280 Ross, has a hole three-fourths inch in diameter, perfectly symmetrical, and with raised edges around it. If you subtract about .287 from .750, you get .463, and if you split this in half, you get .231, or about the diameter of a .22 bullet, margin between the sides of the Ross bullet, and the actual edge of the hole.

Evidently, therefore, the steel does act much like the semi-liquid mud used by the gentleman for comparison, and it thus affords some inkling of the effect of a high velocity bullet on a non-compressible fluid or fluid-containing tissue of a living body. I have seen, on a bet, an animal knocked down and completely disabled by a paunch shot from an ultra-high velocity rifle. This would depend on the condition of the animal, a herbivorous animal just through feeding would certainly give a different effect with such a shot from a bear just out in the spring, and confining his diet to light meals of laxative mountain herbs.

Another queer phase of the steel shooting business is that in none of my tests could I find the least difference in penetrative effect or steel displaced between the full jacket bullet from a high velocity rifle and the most sensitive of collapsing game points of which the .280 copper tube is an extreme example.

Whatever happens, happens long before any soft point has time to start work on the collapsing business. If there is any difference, as there seemed at times, it lay in favor of the soft point bullet.

High velocity invariably produces a steel displacement in soft steel plates, out of proportion to its actual energy. The best illustration is the .250-3000 bullet, 87 grains at 3,000 feet, which is much the same in energy as the .30-30, 170 grains at 2,000 feet, the .250 having slightly the better of the energy figures.

The steel plate asserts that the .30-30 has about half the wallop of the .250.

Likewise did I fail ever to get anything impressive in steel penetration from the rag or .30-40 in spite of its heavy bullet and great sectional density.

I doubt if a bullet is very hot in flight, I don't know that it is at all hot, it has not been proved.

Undoubtedly it gets hot going through the bore from the friction, not from the powder gas because that doesn't even melt an exposed open base lead core.

Those picked up at ranges so long that the bullet quit through lack of farther ranging power, were not hot. I picked up bullets

several times fired from our gun nearly three thousand meters away, within three or four seconds of the time they struck the sand, and they were not hot.

Obviously if you attempt to halt a bullet with a kinetic energy of 2400 foot pounds and its velocity of 2700 foot seconds, by some medium such as steel in a half inch of space, or rock, in six inches of travel, or wood in three feet of travel, or even cotton in four or five feet, you encounter the old simple process of converting energy into heat, which is precisely the way you stop your motor car by contracting asbestos bands around the brake-drums.

This does not mean that the bullet is hot, it merely contains the means of getting hot. If tissue or hide is resistant enough to set up high friction and start our physics process of making heat out of energy, then we should get some tendency toward charring, modified by the fluid contained in the tissue which prevents charring precisely as basting a roast prevents its scorching.

I think most appearance of charring is merely from the coating of carbon deposited on bullet or shot by the gas blast from the gun. If you will fire the cleanest of metal patched pistol bullets from a clean bore at the lightest muslin fabric, you will find that the hole is surrounded by a blackened ring, which bears the same relation to charring as does the appearance on the kitchen towel after little Willy has indulged in one of those compulsory but semi-dry washes, so distressful to the small kid's mind.

## Light, and Telescopes

(Continued from Page 4)

reasoning is correct, the sight adjustment for the 200-yard range in Fig. 2 will probably be less than for the 100-yard range in Fig. 1. While my knowledge of refraction can see no flaw in the line of reasoning in the foregoing, I am sure we would be indebted to Mr. Thomas if he would check up on this on his own range and let us know what he found.

As to the telescope makers: Since they make use of their knowledge of refraction to the *n*th degree in designing the lenses of the telescope, it is hardly likely that any of them will start a fuss over Mr. Thomas' statements. Personally, I'd feel safe in bending their product over the dome of any maker who did imply that his telescope compensated for atmospheric refraction. I'm sure the telescope would get the worst of the deal. However, I do believe the above mentioned Thomas would welcome the argument.

It is quite apparent, then, that refraction has been quite accurately determined and taken into account for more years than I know of, but I do not recall it ever having been mentioned as a cause for error in the shooting game. Now that it has, it appears to me that I have overlooked a mighty good alibi for missing so many nice long shots—when by all the rules of a so-called expert rifleman's rating, I should have scored. I shall certainly take advantage of it!



## The Winchester

(Continued from Page 8)

a single shot .30-40 Winchester, so did another man there. One after another the guns fell out, till only Springfields were left—except those two single shot Winchesters. They stayed.

Just now I happen to own No. 28 of the Olympic free rifles, a Springfield, 13 pounds, 30-inch barrel. (See Page 14 THE AMERICAN RIFLEMAN for February 1, 1924, where the records of the first thirty rifles tested out at 300 meters are listed.) It is a good rifle, the best I ever owned, the best I ever saw. Its official record for fifty shots at 300 meters—about 335 yards—from machine rest, is a group (50 x 50) measuring from center of holes three and one-half (3.57) inches. Well and good—good gun. But I am right now in the middle of a heap big swap for a single shot Winchester, 15 pound gun .30-40, that I'll bet my hat and chaps will hold this record free rifle. If it won't, I'll wind it around a cottonwood. But it will. Just feed it right, point it right, and it will give, like the free rifle Springfield, one (1) inch groups, with handholding through scope of course, at 100 yards and other ranges in proportion.

The .30-30 is sneered at today by some faster bullet men, but the .30-30 cartridge is an accurate cartridge. I assured myself of that simple fact two summers ago by firing about a thousand (1,000) of them at 100 and at 200 yards to see just what they would do in good guns and under right conditions. I used practically all the makes, in all the various loadings, and found all of them as accurate as any other accurate size, such as the .30-40, or .25-35. The most accurate ones I loaded myself, but this is to be expected, as the empties were fitted to the chamber by the first firing to test out the commercial loads. Just as the .30-40 is not as good in the wind as the '06, so the .30-30 is not as good a wind jammer as either of the bigger ones. And neither of the big ones just mentioned—Krag and Springfield loads—are in their turn as good air cutters as is the .30 Newton. All of which was, and is, to be expected, of course. But the fact remains that the .30-30 cartridge, if chambered and held right, is good for three- (3) inch groups with iron sights and rest at 100 yards, and with scope will make eight- (8) inch groups at 300 yards in moderate wind. If the .30-30 does not do this, with first-class ammunition, remember, then look at the barrel, and especially at the chambering of that barrel. No oversized chamber is accurate, nor is any badly pitted barrel.

Whelen in his book, "The American Rifle," says in effect, "The Singleshot Winchester is the best singleshot rifle ever made." I agree with him, under most conditions. Whelen—and I know he regrets it—was barred by Fate from knowing the days on the frontier of the Buffalo Sharps and the Winchesters and the Colts. For sheer reliability no cartridge gun ever equalled the old hammer Sharps, and none exceeded it in accuracy. The singleshot Winchester is the polite son of a gun, not

only the best but practically the only first-class big single shot rifle we have today, but it is not the equal of its pa. Like most sons today, by the way, in these undermining days of too much talk and too much peace—for three generations, so far as the whole public is concerned, not the few proportional who hear powder in France, good, clean men—for when a man won't kill and a woman won't breed, neither has much left of much use to the race. A fist fighter was never a gunman, never dangerous.

So when the feather heads circled in the dust, when the slanting ice-dust filled saddle scabbard full, when five days and nights of wet soaked man and saddle and gun, when there wasn't any oil, or to put it on in the desert would only fill the action with an oil mud, then the gun that rode the pack or

seconds with that bolt gun and hit it only twice. Then I picked up a Winchester and hit it three times in six (6) seconds.

## Notes on the Russian 7.62

By J. P. Rehling

THIS rifle is also known as the "Three-Line Nagant" and the "Mouzin." It is the model of 1901, being five-shot and clip-loading. The box magazine is of the Lee type, the cartridges being held in a single vertical row. There is no cut-off. At the bottom of the magazine is a catch whereby it can be emptied without working the cartridges through the action. The bolt can be withdrawn by pulling it all the way back and pressing upon the trigger at the same time.

The rifle is equipped with a device to prevent two cartridges moving toward the chamber at the same time. This is a metal plate in the action-body which holds down the next cartridge while the one above is being fed into the chamber. A cartridge cannot be fed into the chamber until the previous one has been ejected. This is important, as otherwise a jam is apt to result if the bolt is worked in excitement.

The safety can be put on as follows: When the rifle is cocked pull the cocking-piece back further a bit and turn slightly to the left. This operation disengages the trigger. The rifle can be put into the firing position instantly by just lifting the bolt handle to vertical and back again. This automatically puts off the safety and the rifle is ready to fire again. The bolt can be locked by pulling the cocking-piece back as far as it will go and turning it completely to the left. When in this position it is impossible to fire the rifle or open the bolt. To unlock bolt, reverse operation.

The back sight is of the leaf pattern. The figures of graduation on the same are marked in so many hundreds of paces. A pace equals thirty inches. Therefore, the graduation 6, for example, (600 paces) is equivalent to 500 yards.

The caliber is .30006 or 7.62 mm. There are four grooves .007 deep making one turn in 9.45 inches. The spitzer bullet of cupro-nickel weighs 147 grains and has a muzzle velocity of 2,900 f. s. The shell is rimmed and is loaded with nitrocellulose powder. For hunting purposes the U. S. Cartridge Co. make a 145-grain copper pointed cartridge having a m. v. of 2,900 f. s. The striking energy is 2,710 f. p. Maximum pressure is given as 4,300 pounds.

Most of these rifles were made by the Remington Arms Co. for the Russians during the early part of the war, but on account of the various changes in their government were not delivered.

These rifles, when the barrel is cut down and the woodwork reduced, make handy knock-about sporters. The woodwork is quite heavy, but this is an advantage, as you can work it down considerably to suit yourself. Of course the rifle can be remodeled further as to stock, sights, finish, etc.

## Cable Dope from the Pan-American

CABLE reports from Lima indicate that the American team participating in the Peruvian matches had won all team and individual events except one re-entry match. In the 300-meter range shoot, standing, kneeling, and prone, Lieutenant Hinds scored 284 out of 300, which was one point better than Martino did, with Ensign Morgan of the U. S. Navy and Sgt. Morris Fisher, of the Marine Corps in third and fourth places.

Other cable reports credit Capt. Joe Jackson of the Marines with a new military rifle record in the Carton match with 100 straight. This betters the record made by Captain Richard in 1913 at Camp Perry. Sergeant Fisher, who has twice won the world's championship in the International Matches, is now credited with the new record of 95 out of a possible 100 cartons in the kneeling position.

rubbed under the leg was nine times out of ten a Winchester.

Against my wall tonight as I write this lean that free rifle—Olympic No. 28—a Krag carbine, a .256 Newton, and two Winchesters. And if I can corral that iron sawlog of a single shot, then there will be three Winchesters, standing in a row.

At the rifle range this summer my friend Smith—a prince of a rifleman—seduced me into a standing deer target match, three shots in ten seconds for the whole sum of a dime. The deer was of cardboard, about 18 in. by 4 ft. in the body, not counting legs and neck. It was outlined by Jonas the taxidermist, one of the best authorities in America, and patterned after the big mule deer of the Rockies. "T. H.," who is an expert squawgun man also, hit it three times easily in nine (9) with his sporter Springfield—bolt—and after the first shot I clawed the air instinctively under the gun, in vain search for a lever. Went back thirty years in an unconscious, back-of-the-head, flash. Took me twelve





Conducted by ————— C.B. Lister

## How Lakewood Does It

By Lieut. E. A. Weeks, O. R. C.

I HAVE noticed a number of times in THE AMERICAN RIFLEMAN the different stunts that small clubs have pulled off to stir up interest in both old and prospective members and to gain publicity. The regulars in the small club of which I am a member have been up against the same proposition; namely, lack of activity among most of its members.

A year ago the regulars got together and picked a rifle team and entered the N. R. A. matches, landing eleventh place and leading all the teams from the surrounding towns.

After the rifle team was picked the pistol men said, "Why not have a pistol team and enter the U. S. R. A. league matches?" This was done with the result that they landed first place in Class C junior league. Not so bad when the facts are considered that more than half the team were greeners, rookies or land-lubbers, whichever you wish to call them, but good fellows nevertheless.

After the team matches came the individual rifle and pistol matches, with some of our boys taking places well up towards the top. In fact one did take first place in Rifle Match No. 2, two boys got second and third in Rifle Match No. 3 and four boys got third, fifth, seventh and tenth places in Rifle Match No. 4. In the N. R. A. Pistol Matches one of our members took fourth place in Match No. 1, fifteenth in Match No. 2 and second in Match No. 3, as well as taking first state place in the U. S. R. A. National Individual Indoor Championship Matches.

After the matches were over the shooting began to wane, so to liven things up a bit, a junk shoot was instituted on both rifle and pistol nights. The rules were simply regular match rules governing both arms and the entrance must be something worth at least a quarter and must be wrapped up with the competitor's name on the package, and it must be something that a rifleman or pistolman would use and something you did not care for any more. In fact it was just what the name implied, "junk." Well that lasted for some time, in fact until sometime after the outdoor range was procured and a makeshift installed to do for the present needs.

About the same time that the junk shoot was started the semiannual rifle and pistol Cup Matches were installed and right there was where trouble began. New members would not shoot against older members, as they stood a poor chance of even seeing the cup much less winning.

So to settle the difficulty it was decided that the first contest should be on a handicap basis. The rifle cup to be shot for in five

THIS article written by one of the governors of the Lakewood, Ohio, Pistol Club is the kind of material that we are very desirous of receiving and printing. It contains a number of suggestions which will undoubtedly prove interesting and valuable to every club secretary who reads it. The first thing mentioned by Lieutenant Weeks is the fact that the club placed the teams in the N. R. A. and U. S. R. A. Gallery Matches. Then the idea of a Junk Match is outlined. This Junk Match is certainly novel and worth considering.

The scheme followed by the Lakewood Club for their annual cup matches is one that has been advocated consistently through these columns. Notice that the cups are not awarded to the man making the high score, but to the man showing the greatest increase in his average for the season.

The basket lunches staged during the summer are to be recommended to every club with outdoor range facilities. The picnic idea is always good in getting out a crowd.

The William Tell and Tin Can Matches for the gallery furnish that element of something different and something exciting that is required to break the regular monotony of gallery bull's-eye shooting if interest is to be maintained throughout the winter.

Apparently the Lakewood club found a store, even in as busy a city as Cleveland which was willing to put in a window display for them. Any club can follow this plan, and if the display is properly tied in with the club's activities will be bound to benefit. It is hoped that this article may serve as a stimulant to other clubs to submit similar stories of how they do it.—Editor.

stages of ten shots each in all four positions and that the pistol cup be shot for in five stages, two strings of ten shots each per stage. The one who increased his average the most

over an equal number of shots was the winner. The results were surprising, Mr. F. W. Shaw, a brand new rookie at the pistol game last winter, won the pistol cup with an increase in his average of 3.9 points. The rifle cup went to Mr. Wm. Ernewein, who had only joined the club a month or so before, but had done some shooting in the Winchester Junior League and got beyond the age limit, won with an increased average of 10.6 per cent.

During the summer we staged three trap shoots and two basket lunch picnics which were well attended and much enjoyment derived from them by both young and old alike.

On October 26 the rifle and pistol cups were shot for again outdoors and a Combination Cup was added to the list for good measure to help those who were fairly good with both rifle and pistol and yet not good enough to compete with the sharks. These matches were shot shoulder to shoulder and take your medicine, no handicap and no re-entries.

The rifle match called for 25 shots at 100 yards, 10 prone, 5 sitting, 5 kneeling and 5 offhand on the 100-yard standard American rifle target. This match was taken by W. R. Amos with a score of 233 x 250. The pistol match calls for 25 shots at 50 yards on a standard American 50-yard pistol target.

Mr. H. E. Boughton, president of the club, won this match with a score of 231, which was four points lower than the score he got in the combination match.

The Combination Cup Match is both matches rolled into one and if a contestant has shot in either or both of the others, he must shoot them over to enter this one. This cup was taken by a novice, Victor E. Glantz, with a pistol score of 229 and a rifle score of 220, making a total of 449, one point higher than Mr. Boughton's combination score with his 235 pistol score in it. He fell down in his offhand.

There was no scoring of targets on the line and in that way there was no telling who was or what was high. As soon as the targets were shot they were brought in and given to the governor who put them away and scored them at home during the evening. There is nothing so disheartening to a new shooter, and in fact to some old ones as well, as to hear that Tom Getall has flashed and got a high score. A number will drop out who intended to shoot before they heard about Tom and if they are prevailed upon to shoot they won't come up to their average, whereas if they had not heard about Tom they would have carried out their original intentions and either held or improved their average. I know this to be a fact as I have watched just such cases for the past four years.

Now winter is approaching and with it the winter matches, and interest must be kept up, hence the tin can shoot for the pistol men and the William Tell for the rifle men. Some fun but scores are not high as yet, but wait, time will tell and I hope for a change.

The Tin Can Championship Match is for a silver cup and becomes the property of whoever holds it on July 1st, 1926. This match

is an indoor only as our outdoor range is inaccessible during the winter or wet weather.

The rules of the match are few and simple, entrance fee fifty cents to go into the club's general cup fund. Winner of cup is liable to a challenge as soon as won and when so challenged it must be shot off within a week and the challenger must deposit fifty cents with the club treasurer. Arms: Any revolver or pistol. Ammunition: Any. Sights: Any. Trigger pull: Any. Course of fire:

5 shots from hip in one minute at 10 yds.

5 shots rapid fire at 15 yds., 15 seconds.

5 shots rapid fire at 20 yds., 20 seconds.

5 shots timed fire at 25 yds., 30 seconds.

5 shots slow fire 30 yds., 1 min. per shot.

Target: Small tin tobacco can about  $2\frac{1}{2} \times 3\frac{3}{4} \times 1\frac{3}{16}$  inches, general color maroon and white, suspended by a string four inches clear of butts between two regular firing points. If the can is knocked down into the rubbish it must still be shot at, and it can certainly hide in the loose paper that is put there for that purpose. No advancing from firing point to ascertain its location. Getting the shooter's goat is not only permissible but highly encouraged, if done by the use of vocal power by all contestants, as it helps hold down opponents' scores. Scoring: One point per hit, no allowance made for jams or disabled gun or loss of can.

The William Tell Match is similar to the tin can match, except that a rifle is used and two targets. They both represent the top of a man's head with a small target resting on top. One target has the 8, 9, and 10 ring on it and is used for the rapid fire match which consists of five shots rapid fire standing and five shots rapid fire either sitting or kneeling. The other target has the nine and ten ring only and calls for five shots prone slow fire, and five shots slow fire in whichever position not used in rapid fire. For every shot puncturing Tell's "think tank" fifteen points are deducted from score and no allowance made for close shots, only those on target used count. Razzing and nagging is recommended as in the tin can match. Entrance fee: 50 cents. Arms: Any .22 caliber rifle. Sights: Any. Trigger pull: Any. Range: 25 yards indoors. Cup becomes property of holder on July 1st, 1926.

Now if anyone thinks these are easy stunts, go try them. Try them out on the range alone and see what you can do, especially the tin can stunt. If you are so lucky as to get one in from the hip you have a moving target from then on and believe me it can cut up some didos and don't you forget it.

In the William Tell match the chances are that most of the shots will be off the target for fear of puncturing Tell's bean and it will follow true on the next target owing to the razzing going on. It won't take long before those who take to and follow these games become immune to any and all noise going on around them, besides giving them the best rifle and pistol practice obtainable. Already I can see an improvement in two contestants who went all to pieces the first time tried.

The matches will be talked about among the members and friends and that taken with quite a piece in the local paper about the winnings of the teams and individuals during the past year, together with a nice display of the cups and medals in a nearby jeweler's window with a

service rifle as issued, a nice target rifle with scope all mounted, and a sporting rifle on the side, and above all a neat card calling the attention of those interested to our open house nights and regular shooting night. If that don't stir up something, taken with what the members can do towards building up a club, then I will either quit or look for something else to do.

These suggestions are passed along for what they may be worth to other clubs which are trying to get along. I am well enough acquainted with the shooting game to know that what works fine in some localities is poison in another and that all clubs have to be governed according to the circumstances surrounding it.

### Important Notice

Changes in Conditions Prescribed for the Annual Gallery Rifle and Pistol Competitions—1924-25

Kneeling Position, Page 10

1. The regulations defining the kneeling position is changed to read as follows: *Kneeling*.—The firer kneels half faced to the right on the right knee, sitting on the right heel or inside of right foot, the left knee bent as nearly as possible so that the left lower leg is vertical. No other portion of the body will touch the ground or artificial support. The folding of a ground cloth or other artificial support under any portion of the foot or leg is prohibited. The elbow or arm engaged in manipulating the trigger must be free from support.

Percentage Badges for Pistol Competition Page 39

2. The regulation authorizing awarding of percentage badges in the pistol matches is changed to read as follows: *Percentage badges*.—Percentage badges will be awarded under the same conditions as prescribed for rifle competitions contained in this program, except that a percentage of 80 or higher is required.

Women's Intercollegiate Championship Page 31

3. The course of fire prescribed under conditions of Match No. 19, *Women's Intercollegiate Championship*, is changed to read as follows: The match will consist of three stages fired at such hours best suiting the convenience of the club concerned. An entire stage must be completed in one day. Stage will consist of two strings each of two sighting shots and ten shots for record fired in the following order: First Stage—2 strings prone; Second Stage—1 string prone, one standing; Third Stage—2 strings standing.

### JUST ONE SHOULD BE EASY

The problem of enlisting the support of just one American citizen in the work of the National Rifle Association is easy, and if every annual member will enlist just one citizen for 1925, the net result will be a one hundred per cent increase in the size of the Association and in its ability to better obtain for the shooters of the country what they want. Go out today and get your one member for 1925!

### THREE INTER-COLLEGIATE LEAGUES ORGANIZED

Three inter-collegiate rifle leagues will operate in the East this year instead of the one league which functioned so satisfactorily last year, as a result of plans which have been worked out by the Inter-Collegiate Rifle Association. Twenty-six of the major institutions of the East will be represented in these three leagues which will be designated as follows: New England League, Eastern League, and Middle States League. The shooting schedule will occupy the months of February and March. The gallery program for the Eastern College shooters will be brought to a close with an open shoulder-to-shoulder championship match which will be fired in New York City on Saturday, April 18th. There were eight teams in the Northeastern Inter-Collegiate League last year, and eleven teams participated in the shoulder-to-shoulder match. There are twenty-six teams in the three Eastern Leagues this year, so that if the same proportion is maintained the shoulder-to-shoulder match in New York on April 18th will prove to be a most important and highly interesting competition.

There has been a marked increase in interest in inter-collegiate shooting since the organization of the Inter-Collegiate Rifle Association to act in an advisory capacity to the National Rifle Association in the conduct of matches of a nature which will appeal to the under-graduates at the universities.

\* \* \*

### FINGERLAKES LEAGUE FORMED IN NEW YORK

In the first of its indoor matches of the year, the Ithaca Rifle club defeated the Auburn Rifle Club at the Cornell Armory by the score of 1803 to 1789. A feature of the match was the shooting of Paul Wilson of the local club, who, despite the fact that he is a beginner at target shooting, rung up the second highest score of the match.

Each club entered ten shooters, but by agreement the scores of the five high men for each were used in deciding the result. Competition for a place on the first five scorers for the local club was very keen, Stark of Ithaca, nosing out Purdy and Peters by one and two points, respectively.

The shoot was witnessed by representatives of the Candor and Endicott rifle clubs, Secretary William N. Gridley, of the Candor Rifle Club being scorer and referee. Following the match, a joint meeting of the officers of the Auburn, Ithaca, Endicott and Candor clubs resulted in tentative plans for the formation of a Finger Lakes Rifle League, and Secretary D. S. Purdy, of the local club was commissioned to perfect an organization which will include all rifle clubs in the Finger Lakes region who are affiliated with the National Rifle Association of America. It is planned to stage an all-winter competition between these clubs, each one visiting the others on its home ranges at least once during the winter, where conditions and distances permit.

The Auburn and Ithaca clubs will stage a return shoot at Auburn on Saturday, November 29. The match will be held in the Auburn Armory.



### BUILDING A CIVILIAN CLUB

The Solon Springs, Wisconsin, Club is one of the most aggressive from the standpoint of making itself a community asset, of any of the clubs on the N. R. A. roll. The following short history of the club's activities contains so many incidents that are familiar to all club executive committees, and indicates so many methods adopted to overcome initial difficulties that it is published almost verbatim as received from Mr. W. J. Posey, the present secretary of the organization. We believe that a great deal can be done to help civilian clubs if the secretaries can be persuaded to relieve themselves of some of the worries that attend their duties and of some of the solutions that have been found for their own difficult problems.

In his letter of transmission, Mr. Posey says—

You would be surprised at the pride and respect that the general public in northern Wisconsin has for our club. At first our path was rocky and outsiders said the club would not live long, but we fooled them all and, as the saying is, we are sitting pretty and coming through.

This year the National Guard unit stationed in Superior, thirty-five miles away, has been here and is coming again to Camp and use our range for target practice.

#### "Four Years of Hustling"

"Four Years of Hustling!"—that's what we call it. After organizing and affiliating as a civilian club we started out hustling for a large membership and succeeded in securing over one hundred members in November, 1920, it being no difficulty on account of the natural desire of the men and boys in this locality to shoot.

A range committee was then appointed to look for a 1,000-yard range which we thought could be easily secured.

But getting a large range that would be safe to farmers living near, was somewhat more difficult than we imagined, and, after numerous surveys with the outdoor season almost at hand, we finally secured permission to use a level stretch of land that had a forty-foot knoll at its north end. We set to work at once and dug a pit for a target, built walks to our 200- and 300-yard firing lines, which were rather swampy, and started on time with our program of shoots, which had been arranged during the winter by an appointed schedule committee. Our first season was undoubtedly amusing and ludicrous to outside spectators.

Members who were accustomed to get their deer running through thickets or open country without difficulty, could not seem to hold the sights steady on the bull's-eye.

The percentage of threes, twos, and red flags was amazing.

We were used to lever-actions and quick triggers, and bolt-actions and long trigger squeeze were something we had never encountered before.

We found out that we had to go to school, so taking advantage of the low prices on obsolete arms we showered orders on the Director of Civilian Marksmanship Office for Krag's, to be used for target practice and hunting purposes.

It must be remembered that we did not know anything about rifle ranges in regard to construction or rules of firing in the various positions, etc.

Through the patience and courtesy of Col. C. E. Stodter and Gen. F. H. Phillips, jr. in answering our inquiries in regard to such matters; by purchasing "Rifle Marksmanship" books and looking over articles in *Arms and the Man*, now called *THE AMERICAN RIFLEMAN*, we have acquired the knowledge which has enabled us to make a success of our undertaking.

We finished our first outdoor season in good shape, but came to a realization that the rifle game was a big thing and that if we wished to make the club progress and make our members more satisfied, we would have to change our range for one that we could own in the future.

We were on land that the owners could have us moved off of after ten days notice.

The range committee was put into action again and after a painstaking search, they reported a good location five miles from town, which was on high, level ground, with trout streams adjoining it, and a hill 400 feet in height which would make a fine backstop for the bullets.

Also, a well-graded county highway was being built within one and a half miles of this range, so that by repairing and using an old wagon trail we would have no difficulty in getting there by automobiles.

We moved to the new range in the spring and commenced our 1922 season with a good attendance, and finished our schedule of shoots in November, just before the hunting season for deer commenced.

The results of this season were a great improvement in marksmanship among the members by appointing coaches to instruct, and the acquiring of forty acres of this range including the hill for the backstop, through the sale of county tax certificates, which cost us only one hundred dollars and the general satisfaction among the members on owning a permanent range.

On account of there not being any building in Solon Springs that we could use for gallery shoots, we have been forced to remain idle during the winter months.

We, therefore, turned to social entertainment by giving dances, etc., as a means of creating a fund to cover our expenses for the next range season and also to keep the members in touch with each other.

At our annual meeting each January, plans for the coming season are discussed and committees are appointed to carry them out.

Also, we get in touch with sportsmen in other towns nearby, and try to induce them to organize clubs so that we can have shoulder-to-shoulder matches.

We have been fairly successful in this matter so far, and we have also interested summer tourists coming here from other States to start clubs in their home towns.

Our third season was splendid from our executive committee's viewpoint, comprising events such as graduation of the average member from the red flags, deuces and treys into the fours and fives; team matches with outsiders, which we won; the sending of some of our younger members to Camp Custer, Michigan, to take the citizens' military training; and a general longing among the members to attend the Camp Perry Matches.

Our fourth season has just started and promises to be our banner year in attendance and interest.

A splendid schedule of shoots has been arranged, and among them are six team matches with other clubs.

At this writing one match, that of the Northwestern Gun Club, of Duluth, against us has been staged with our team on the losing end. This Duluth club is an old shotgun organization, but numbers among its members some of the best rifle shots in Duluth. During the winter they hold weekly off-hand matches at 200 yards on their clubhouse grounds, no matter what kind of zero weather it is. We accepted their terms of eight-man teams, slow fire, off-hand match at 200 yards, with twenty shots per man, the gun sling barred. They came by cars with their families and friends and after eating lunch and taking pictures, the shoot commenced.

After the team match a rapid fire rising bear novelty match was put on; twenty shots per man at 200 yards off-hand, five shots in thirty seconds, each man shooting a string of ten shots and then stepping back from the firing line and taking his turn again after everyone had shot the same string. Again the Duluth men carried home the bacon. The Duluth club men were delighted with the shoots, and the novelty match especially appealed to them.

The best of all is that they are going to organize a civilian club since the shoot, and may have by this time secured a piece of land five miles out of Duluth that they were after. We have arranged with them to hold this team match

each year and we hope to have an annual affair with the other clubs also.

Through watchful waiting, we secured the tax certificates on another forty acres adjoining our own range last April for forty dollars, a small price indeed.

This gives us a 700-yard range and also covers the road leading to the township road connecting up with the county highway, and also a foothold on a trout stream by the range. The taxes each year are low as the land is unsuitable for farming purposes, but ideal for a range.

The results of four years of hustling are: We have a membership of sixty; we own our range; a well built log clubhouse sixteen by twenty-four feet has been erected on the grounds; permanent firing lines have been built; and the range road has been improved for travel.

Our range schedules each year are getting more attractive and the members are competing for a place on the teams this year, all through our season, as the schedule committee has arranged the team shoots in between the club shoots and members wishing to be on a team, have to be among the eight or ten high score men in the club shoot previous. This keeps up interest and attendance and promotes better marksmanship.

Gold and silver medals and badge pins are awarded at the end of each season by the club to members who have the first and second highest aggregate scores in series of matches on the 30-caliber and the small bore ranges.

Each year an arrangement is made whereby auto-bus transportation to the range is furnished to members who haven't cars, at fifty cents per round trip, the club paying five dollars per trip, and collecting in turn, from the members.

Eighty-five per cent of our rank and file are farmer boys and men—poor in worldly goods and wealth, yet they are sturdy and loyal to the rifle game.

There are still lots of improvements to be made on our range but the essential things have been done.

We will not relax our efforts to better ourselves, and, in time, we hope to show the N. R. A. men and the general public, that a civilian rifle club can have a rifle range second to none by hustling and making the best of the finances at its disposal.

This Solon Springs record should serve as a starter for a series of hard-luck-and-final-victory incidents. If you will show how miserable it looked, and then how it was finally accomplished, you will be helping another hard pressed secretary to put his club over.

\* \* \*

### WILMINGTON, O., RIFLE CLUB HOLDS ITS SECOND ANNUAL FALL TEAM MATCH

The largest small bore rifle team competition ever staged in Ohio was completed late in October on the range of the Wilmington Rifle Club. Five teams composed of five men each shot through the entire course of twenty shots per man at 50 yards, 100 yards, and 200 yards. The match developed into a neck and neck race between Hillsboro and Wilmington, with the former finally coming out on top with the scant margin of fourteen points out of a possible twenty-five hundred. For some, up to the present time, unknown reason, the Deerfield Gun Club failed to arrive after having promised to be on hand. The Deerfield shooters missed more than a real rifle match, as the day was perfect and concluded with a chicken dinner served by Mrs. Earl Benhler.

The final standing of the teams was as follows:

	200	100	50	Total
Hillsboro Rifle Club	492	979	980	2451
Wilmington Rifle Club	481	976	980	2437
McCook's Field Rifle Club	464	964	980	2408
Columbus Rifle Club	451	931	924	2306
Columbus Bus. Mens R. C.	422	922	890	2234



# THE DOPE BAG



A FREE SERVICE TO TARGET, BIG GAME AND FIELD SHOTS  
ALL QUESTIONS BEING ANSWERED DIRECTLY BY MAIL

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Shotgun and Field Shooting: Capt. Charles Askins

Every care is used in collecting data for questions submitted, but no responsibility is assumed for any accidents which may occur.

## List of Books for Rifleman and Big Game Hunters

By Townsend Whelen

THIS does not pretend to be a complete list of books—it is merely a list of books from my own library—a list which has been called for from time to time by readers of THE AMERICAN RIFLEMAN, and by those who avail themselves of the services of the Dope Bag Department of this publication. It does, however, give the principal books under the various headings which will be found useful to riflemen and big game hunters.

Many of these books are now out of print, but the majority of them can be obtained by any of the larger book stores in the largest cities. A number of sportsmen have had good success in obtaining the English books by writing to B. S. Stevens & Brown, 4 Trafalgar Square, London, W. C., England.

### 1.—African Big Game Hunting

(A) The classics, now mainly historical, but which are constantly referred to, and which everyone should read:

- "The Lion Hunter in South Africa,"—R. Gordon-Cumming. Various editions, 1850 to 1903.
- "Wild Beasts and Their Ways,"—Sir Samuel Baker. Macmillan, New York, 1898.
- "A Hunter's Wandering in Africa,"—F. C. Selous. Macmillan, New York, 1907.
- "Elephant Hunting in East Equatorial Africa,"—A. H. Neumann. Rowland Ward, London, 1898.
- "A Breath from the Veldt,"—J. G. Millais, 1899. Get the cheaper edition.

(B) Practical books of use to all contemplating African hunting:

- "The Game of British East Africa" "Central African Game and Its Sport,"—Capt. C. H. Stigand. Horace Cox, London. [I consider these two books the most valuable treatises that have been written on African hunting.]
- "The Land of the Lion,"—Rainsford. Doubleday, Page & Co., New York, 1909. [The best book on managing the safari.]
- "African Game Trails,"—Theodore Roosevelt. Scribners, New York.
- "Life Histories of African Game Animals,"—Theodore Roosevelt and Edmund Heller. Scribners, New York.
- "African Nature Notes and Reminiscences,"—F. C. Selous. Macmillan, New York, 1908.
- "Hunting the Elephant in Africa,"—Capt. C. H. Stigand. Macmillan, New York, 1913.

"Life of Frederick Courtenay Selous, D. S. O.,"—J. G. Millais. Longmans, Green & Co., New York, 1919.

"Adventures of an Elephant Hunter,"—James Southland. Macmillan, 1912.

"Records of Big Game," Rowland Ward, London. Get latest edition.

"African Camp Fires," "The Land of the Footprints," "The Rediscovered Country,"—Stewart Edward White. Doubleday, Page & Co., New York.

"Trekking the Great Thirst,"—Lieut. A. W. Hodson. Scribners, New York, 1912.

"A Sportsman's Wanderings,"—J. G. Millais. Houghton, Mifflin & Co., New York, 1920. [A delightful book on hunting in general, only partly on Africa.]

"The Book of the Lion,"—Sir Alfred Pease. London.

"Through Central Africa,"—James Barnes. D. Appleton & Co., New York, 1915.

(C) Other worth while books on African hunting:

"The Man Eaters of Tsavo," "In the Grip of the Nyika,"—Lt. Col. J. H. Patterson. London.

"In Haunts of Wild Game,"—F. Vaughan Kirby. Wm. Blackwood Sons, London, 1896.

"Sporting Trips Through Abyssinia,"—Powell-Cotton. Rowland Ward, London, 1902.

"In Unknown Africa,"—Powell-Cotton. Hurst & Blackett, London, 1904.

"Seventeen Trips Through Somaliland,"—Capt. Swayne. Rowland Ward, London, 1895.

"The Big Game of Africa,"—Richard Tjader. Appleton's, New York, 1910.

"In Closed Territory,"—E. B. Bronson. A. C. McClurg & Co., Chicago, 1910.

"Hunting in British East Africa,"—Percy C. Madeira. Lippincott, Philadelphia, 1909.

### 2.—American Big Game Hunting

(A) The classics, which everyone should read:

"The Wilderness Hunter,"—Theodore Roosevelt. Scribners, New York.

"American Big Game Hunting," "Hunting in Many Lands," "Trail and Camp Fire," "American Big Game in Its Haunts," "Hunting at High Altitudes,"—Books of the Boone and Crockett Club. Harper & Bros, New York.

"The Deer Family," "Musk-Ox, Bison, Sheep & Goat,"—The American Sportsman's Library. Macmillan, New York.

"The Still Hunter,"—T. S. Van Dyke. Macmillan, New York, 1904.

"Camps in the Rockies,"—Ballie-Grohman. Scribners, New York, 1905.

(B) Practical books on American big game hunting:

"Outdoor Pastimes of an American Hunter,"—Theodore Roosevelt. Scribners, New York.

"The Happy Hunting Grounds,"—Kermit Roosevelt. Scribners, New York.

"Life Histories of Northern Animals,"—E. T. Seton. 2 vols. The best Natural History. Scribners, New York, 1903.

"Wilderness of the Upper Yukon," "Wilderness of the North Pacific Coast Islands,"—Charles Sheldon. Scribners, New York.

"Camp Fires in the Canadian Rockies," "Camp Fires in Desert Lava,"—W. T. Hornaday. Scribners, New York.

"The Arctic Prairies,"—E. T. Seton. Scribners, New York.

"Hunting Trips in North America,"—F. C. Selous. Scribners, New York.

"On the Headwaters of Peace River,"—Paul Haworth. Scribners, New York.

"Sport and Travel in the Northland of Canada,"—D. T. Handbury. Edw. Arnold, London, 1904.

"The Barren Grounds of Northern Canada,"—Warburton Pike. London, 1892.

"Hunting Trips of a Ranchman,"—Theodore Roosevelt. Scribners, New York.

"Ranch Life and Hunting Trail,"—Theodore Roosevelt. Scribners, New York.

"Through the Sub-Arctic Forest,"—Warburton Pike. London.

"Hunters of the Great North,"—Vilhjalmur Stefansson. Harcourt Brace & Co., N. Y. C.

"My Life With the Eskimos," "The Friendly Arctic,"—Vilhjalmur Stefansson. Macmillan, New York.

"Hunting in the Arctic and Alaska,"—Marshall Scull. Winston, Philadelphia.

"Big Game Fields of America, North and South,"—D. J. Singer. Doran, New York.

"Lands Forlorn,"—George M. Douglas. Putnam, New York, 1914. (Coppermine River and Great Bear Lake.)

"Wild Life in Canada,"—Buchanan. Stokes, New York, 1920. (Churchill River and Reindeer Lake.)

"Big Game Hunting,"—Townsend Whelen. Outer's Recreation, Chicago, 1923.

### 3.—Camping and Woodcraft

"Woodcraft,"—Nessmuk. Forest and Stream Pub. Co., New York.

"Camping and Woodcraft,"—Horace Kephart. Outing Pub. Co., New York. (2 Volumes.)

"Camp and Trail,"—Stewart Edward White. Outing Pub. Co., New York, 1907.

"The Way of the Woods,"—Edward Breck. Putnam, New York.

"Packing and Portaging,"—Wallace; "Tracks and Tracking,"—Brunner; "Horse Packing,"—Post; "Taxidermy,"—Proy; "The Canoe,"—Pinkerton; "Woodcraft for Women,"—Pinkerton; "Winter Camping,"—Carpenter. Handbooks published by Outing Publishing Co., New York.

"Outdoorsman's Handbook," Field and Stream Publishing Co., New York.

"The Book of Woodcraft,"—E. T. Seton. Doubleday Page & Co., New York.

"The Secrets of Polar Travel,"—Robert E. Peary. Century, New York.

"Hints to Travellers," Royal Geographic Society, London, 1906. (2 Volumes.)

"Field Book of American Trees and Shrubs,"—Matthews. Putnam, New York.

### 4.—Rifles and Ammunition

"The Modern Sportsman's Gun and Rifle,"—J. H. Walsh (Editor London Field). Horace Cox, London, 1882. (2 Volumes.) (Rare.)

"Modern American Rifles,"—Gould. Brandlee Whidden, Boston, 1892.

"The Book of the Rifle," Freemantle, London.

"Text Book of Small Arms," Harrison & Sons, London, 1912.

"Sporting Firearms,"—Horace Kephart. Outing Publishing Co., New York, 1912.

"Rifles and Rifle Shooting,"—Charles Askins. Outing Publishing Co., New York, 1912.

"Pistol and Revolver Shooting,"—Himmelswright. Outing Publishing Co., New York, 1912.

"The American Rifle,"—Maj. Townsend Whelen. Century, New York, 1918. Procurable from National Rifle Association, \$6.00.

"Rifles and Rifle Shooting,"—John Caswell. D. Appleton, New York, 1920.

"Sporting Firearms of Today in Use,"—Paul A. Curtis, Jr. Dutton & Co., New York, 1922.

"Amateur Gunsmithing,"—Maj. Townsend Whelen. National Rifle Assoc., Washington, \$1.50.

"The Bullet's Flight from Powder to Target,"—F. W. Mann. Munn & Co., New York, 1910.

"Cleaning and Care of Modern Firearms,"—Maj. Townsend Whelen. Conversion Products Corp., Philadelphia, 1923.

"Handbook of the U. S. Rifle, Cal. .30, Model 1903." Government publication obtainable from the Director of Civilian Marksmanship. Washington, 10c.

"U. S. Army Training Regulations No. 150-5. Marksmanship. Rifle, Individual." Government publication obtainable from the Director of Civilian Marksmanship. Washington, 10c. (Takes the place of the old "Small Arms Firing Manual.")

#### A SWING-OUT S. A. COLT

WHY wouldn't the s. a. Army be equal to the d. a. New Service, Army Special, or S. & W., if it was made in swing-out cylinder?

I have shot various calibers of s. a. Army, and some Bisley pistols for approximately 25 years, and like the hang, grip and general function of the s. a. Army best of any. Prefer .45, don't exactly know just why, seems to deliver best accuracy all around, last gun had sheard gold bead, 7½-inch barrel, sighted by Marble Arms Company; but had three mainsprings, three hammers and tree triggers inside of first thousand shots in use—mainspring breaks bad, the hammers breaking off the half-cock notch and end of triggers from letting up on trigger as hammer as your answer says to article referred to falls slow in arc it travels.

Now, what I am driving at is, Where to get a s. a. Army made with better trigger, lower cocking spur, (swing-out cylinder, S. & W. pattern, under barrel lock as S. & W.), Colt s. a. Army grip, slightly larger guard, Patridge type sights, gold bead as S. & W. new sight, and heavy weight approximating the present Colt, retaining loading gate on right-hand side as in present s. a. Army?

I had quotations from an American concern of \$500 each for two and I furnish the drawings. Garate & Co., manufacturers at Eibar, Spain, having offices in New York, did not quote, but would only consider an order of 1,000 pieces.

Have had letters from Ashley Haines saying that the gunmaker who made three for the Peters Cartridge Company, is now to old to make any more such guns. One of these three was used by Gus Peret for fifteen years. This type has been referred to as the "Haines' Model."

In making up such guns I would appreciate your advice on advisable length of barrel for .45 caliber, and length of barrel for .44 S. & W. Special, and .32-20, also comment on size of frame for .32-20.

One comment I might add in my remarks on calibers and that is, The .45 or any cylindrical shell is a hard shell to eject even with the rod ejector of the s. a. Army, if they swell much as some ammunition does. The .44-40, or any bottle neck, ejects better.

I had a letter from W. F. Roper, of Smith & Wesson, in answer to inquiry about their arms, in which he mentioned the Patridge type sight with the gold bead for shooting in woods against dark background. He said the S. & W. .38 Special would improve my shooting. The general comment I have observed is that it is a very accurate shell, and their arms are excellent. I am going to buy two and try them out; but I am sure they will not supplant the feel and the hang of the s. a. Army. Just now I have two New Service .45s, 5½-inch barrels. They target surprisingly good—shot three left-handed, four right-handed into six-inch circle at 75 yards a few days ago, using them single action. Using them double action to get any accuracy at all is slow and difficult, the pull being hard throughout and one rougher than the other, and the grip is long horizontally and stretches the hand.

If you know where to get a s. a. Army made, two guns specified as in foregoing, I can make up the drawings; and would appreciate the information.

I would also appreciate information on the relative accuracy of .44 Special and the .38 S. & W. Special and ranges. L. C. R., Sandusky, Mich.

**Answer (by Major Hatcher).** The type of pistol you mention would be very interesting and useful, but the trouble is that it is extremely expensive to have any gun made up by hand. In a factory like Colt's, they have all the machinery set up, so that it is really only a small routine job to make any one of the complicated parts of a revolver; but if the same thing has to be made by hand, it means many hours of filing and cutting, which would cost a great deal of money.

I do not know of anyone in this country that would be able to make you a gun like you mention for very much less than the price quoted by the American company.

I have always preferred the 5½-inch barrel on this style of gun, as it seems to balance better.

As most of those who have used the s. a. are used to the .45 caliber, I would suggest the same size frame for the .32-20, although a much smaller frame could be used if you prefer a lighter gun.

The .38 S. & W. Special seems to be somewhat more accurate than the .44 Special. The .44 Special will carry slightly farther on account of the heavier bullet, but there is really not a great deal of difference in the range and accuracy of the two guns.

#### BRINGING THE AUTO. UP TO DATE

I DESIRE to have my Service pistol equipped with a match barrel, new sights, new mainspring bushing giving the rounded grip effect, new trigger, new grip safety and to have excess metal from frame in rear of trigger removed, and re-blued. In fact, I want my old gun, which is a commercial or Colt factory product brought right up to date. Can I have this done, and if so how must I go about it? Can you tell me about what the cost would be and about how long it would take? Would you advise me to have this done or would it be advisable to buy a new pistol outright?

I am enclosing an addressed and stamped envelope for your use. Regret having put you to this trouble but have been unable to get this information through regular military channels. Thanking you for any information and advice you may be able to give me I remain, M. J. M., Fort Slocum, N. Y.

**Answer (by Major Hatcher).** Certain of the new parts for the automatic pistol can be purchased from the Colt's Patent Fire Arms Company, and applied to your old pistol without trouble.

By applying the new model parts, you can change your gun to the new model except for the cut in the frame back of the trigger.

The prices of the parts as quoted by the Colt Company are as follows:

Trigger	\$1.50
Grip Safety	1.70
Mainspring Housing	1.50

I believe that the Colt Company will re-blue your pistol, put a new front sight on, and put in new model parts at a very reasonable cost, and would advise you to communicate with them direct as to the amount they want for this job. I believe that it would be cheaper than buying a new pistol, and would be just as satisfactory.

#### A SHARPS FOR THE .30-'06

I HAVE a Sharps long range rifle. Would it be practical to have a 32-inch barrel fitted on this rifle so as to shoot the Springfield .30-06 ammunition? If 32-inch barrel should be too long, a 30-inch barrel would answer the purpose.

I would like to have a rifle that shoots this ammunition and would prefer to have barrel placed in my Sharps rifle for that purpose to the regular Springfield rifle as it is now made for this ammunition. O. J., Wheeling, W. Va.

**Answer (by Major Whelen).** The old Sharps long range rifle with outside hammer is by no

means strong enough for the modern high velocity cartridge, but the later Sharps, Berchart Model, long range rifle, which I presume yours is, while not suitable for such ammunition in its original condition, is easily slightly altered to make it perfectly satisfactory for such ammunition.

The breech block must have a hardened steel bushing inserted around the firing pin hole, and a new firing pin must be inserted. This work must be done by a firm thoroughly conversant with the work.

A .30-06 barrel can be made and fitted to a Sharps Berchart action, but the making and fitting of an extractor for the rimless case is quite a problem, and may be a little expensive. I am not really sure than an efficient extractor can be fitted for this rimless cartridge case. For this reason I would rather advise that your rifle be fitted with a barrel for the .30-40 Krag cartridge. I feel sure that a better and more accurate job will result. By having the chamber of this .30-40 barrel specially treated for the pointed type of bullet as used in the Springfield cartridge, and by hand loading your ammunition with more of the bullet projecting out of the case than normal, you can increase the powder capacity of the .30-40 cartridge considerably, and can thus get practically the same ballistics as from the .30-06 Springfield cartridge. Or you will find that you can buy .30-40 Krag cartridges factory loaded with 50-grain bullets to give muzzle velocities up to 2,550 f.s., or with 180-grain pointed bullets to give velocities up to 2,350 f.s.

#### 220 GRAIN FOR THE KRAG

IN THE August 15 issue of THE AMERICAN RIFLEMAN an answer by you, page 25, to L. O'H., of New Castle, Ind., you hit on a subject that concerns me. Can you tell me of a manufacturer who is making 220-grain Krag bullets to conform to the throat of Krag rifle as those issued by N. R. A.? By using "mikes" or Western Luballoys I find a great difference in bullet shape I figure there is quite a lot of jump in the Lubaloy before hitting the lands. In rest shooting I can't get the stuff with Lubaloy that I can with some Frankford Arsenal 1906 .30-40 cartridges that I have had for years. It may be due to bullet shape. I particularly wish to get some good standard shape soft points for hunting this fall. If I can't get them I think I will use Westerns, as I like them.

Also, are the Remington Express loads with 220-grain bullet dangerous to use in Krag? They make no mention of pressure developed. Will, you please let me know about these things. C. W. W.

**Answer (by Major Whelen).** I have your letter of Oct. 7th. The old type of 220-grain .30 caliber bullet that was designed for the Krag cartridge would not fit in rifles chambered for the .30-06 cartridge, as it had its diameter carried too far forward to fit in the throat of .30-'06 rifles. Consequently the cartridge companies had to develop slightly different 220-grain bullets for the .30-'06 rifles, with less diameter forward. It was found that these bullets would do very well in rifles chambered for the Krag cartridge, and consequently, to reduce the number of types and economize the cartridge companies have mostly discontinued the manufacture of the old type bullet, and have adopted the new type for both the Krag and Springfield cartridges. I think that it is pretty certain that the new type will not shoot as well as .30-40 rifles as the old type did, and it is of this that you complain.

Remington was the last firm to adopt a 220-grain bullet for the Springfield, and I think that it is most likely that from them you can get a supply of the old type of Krag 220-grain soft point bullets. Write to Frank J. Kahrs, Remington Arms Co., 25 Broadway, New York, N. Y. He may be able to get you what you



want. The new Remington .30-40 Express Mushroom cartridge is perfectly safe in the Krag rifle.

Western have lately changed the type of their 220-grain .30 caliber bullet to one having a heavier jacket and less lead exposed at the point. At a recent test I found that this bullet was one of the most accurate hunting bullets I have ever shot. With a load of 42 grains of No. 16 powder it gave one inch groups at 100 yards in the Springfield Remington Express Mushroom ammunition, .30-06 did almost as well as this also.

#### A REMOVABLE COMB

I HAVE just received a Belding & Muhl telescope mount for attaching my Winchester 5-A scope to my 1921 National Match Springfield. This rifle is fitted with Lyman No. 48 rear and No. 17 front sights. As you know the Belding mount brings the telescope line of sight approximately one inch higher than the line of sight through the Lyman sights. Also I have restocked this Springfield with one of the standard pistol grip full length stocks which I obtained some time ago from the D. C. M.

Now I would like to build up the comb so that the eye will come in the same relation to the scope as it now does to the Lyman sights and would also like to have the piece detachable so that I can remove it readily and use the Lyman sights.

There must be standard ways in which this is done and I have seen cuts in the papers at different times showing all kinds of pads and contraptions which apparently have to be tied or laced on in various ways but I haven't gained much of an idea of how to do this little job in the neatest and most satisfactory way. If you could give me the benefit of your experience and advice on this point I would appreciate it very much.

Another inquiry. I have a Ross 280 M-1910 sporting rifle which I have wrestled with off and on since I bought it in 1914. It has always shot about as well as any other Ross sporting rifle that I have had a chance to compare notes with. Its one star fault is that after I reload the shells a few times they stick hard enough (even with short range loads) to prevent extraction although they punch out very easily with a wiping rod.

I understand that this is simply the nature of the beast but I would like to ask you if there is an effective remedy for this trouble with this gun. I have read of oiling shells and I have also read of the effect of this procedure on chamber pressures. Can you give me any advice on this? G. B. H.

*Answer (by Major Whelen).* If the comb of the stock on a sporting Springfield rifle be raised so as to have a drop of less than about 1½ inch in the ordinary manner it will interfere with the opening of the bolt. The only way is to raise the comb at a point back of where the bolt reaches to when the bolt is open and withdrawn to the rear, and if this increase in height is made a permanent part of the stock then the bore of the rifle cannot be cleaned from the breech.

The only practical method is to provide a removable high comb or pad for use with the telescope. The Germans have designed a wooden detachable comb which seems to work very well. It attaches to the top of the regular comb with dowel pins, and is perfectly secure, but easily removable by simply pulling upward. I am appending a very rough sketch of this auxiliary comb. Would advise that the Hoffman Arms Co., Cleveland, Ohio, can probably fit such a comb to your stock as they understand it completely.

I have had exactly the same trouble that you have had with the cases sticking in the .280 Ross rifle. I used to think that it was the fault of the rifle, the principal of which lacks the force to extract a sticking case such as the Mauser and Lee bolts possess. But now I know that it is a fault with the ammunition. The cases are not

annealed correctly for the breech pressure generated. The high breech pressure of the Ross was in advance of the times, and cartridge manufacturers had not at that time learned to make their cases with hard enough bodies and bases to stand such pressures and not expand and cling to the sides of the chamber. I imagine that it is not possible to get such cases, as the cartridge companies probably have on hand enough of the present cases to fill all demands, and even if they went into the manufacture of new cases I hardly think that they would be willing to expend the rather large amount of experimental funds necessary to determine the exactly correct anneal of this case. I think you can overcome the trouble with reduced loads by starting with new cartridge cases that have never been fired with the full charge. Oiling the cases is safe with reduced loads, but is dangerous with the full charge.

#### NATIONAL MATCH RIFLES

I GUESS you are in demand quite a good deal between answering questions through THE AMERICAN RIFLEMAN and questions and requests that come from chaps like me.

I am about to purchase a new .30 caliber National Match Springfield and I want your valued help if you have the time.

I just sold my Springfield that I have had about five years and having loaned it to different club members (there being only two Springfields in the entire club) I decided it was time to get a new one. It had a '19 barrel and was a star-gauged gun.

I want to try and win the Bradley Cup at West Palm Beach next February. I finished in 6th place last year and believe a new tight gun will help me. Believing you are interested in all kinds of shooting, I will give you the details of this match: The cup is valued at \$2500.00 and was presented to the West Palm Beach club by the famous Bradley Bros. of the gambling casino there at Palm Beach. The course is two sighters and 15 shoots for record at 300, 600 and 1,000 yards, Springfield, as issued, any ammunition, and must be shot on the West Palm Beach range some time every February. The Jacksonville Rifle Club has had the honor to hold it for one year. It is an individual match and any member of a Club in Florida is eligible to compete.

So you can see that I want a Jam-Up gun for fine slow-fire shooting, therefore the bolt can fit fairly tight; and do you advise a tight barrel? Tight sights are absolutely necessary and would like to have a No. 7 peep. I have a Winchester 5-A scope, so please have sight blocks mounted properly for this scope as I use the scope in the Florida Mid-Range Championship Match.

I guess you are beginning to wonder where you come in on all of this trouble, but I think if you cannot pick this rifle out for me you might forward my letter on to the D. C. M. and they will give it special and prompt attention, coming through you.

Now, about the cost of the rifle, sight base mounted, crating and express: Let me know the cost and I will forward certified check for same.

I would also like to have a new barrel for my Colt Automatic .45. I want to do very fine pistol shooting with this gun and suppose I should have a match barrel. I won the civilian pistol match at the Florida State Encampment here last August with this .45, but we have a club pistol with a terrible barrel and I will put the new barrel in my pistol and put the barrel from my pistol in the club pistol. They are interchangeable are they not?

The Club has a kit of Stazon Products and so have I, and I strongly recommend it to the entire membership.

Is it possible to buy Chloroil, or Cloroil, rather, in bottles without the rest of the kit?

I guess I have covered the ground pretty well, so I hope to hear favorably from you at an early date. Hoping I will not have gone too far in asking you to do these things for me, I am,

Yours for plenty of good rifle and pistol shooting. Wm. McN., Palm Beach, Fla.

*Answer (by Major Whelen).* I have your letter of October 6th. There is not the slightest choice between the National Match rifles. One is just as good as another. Even if I wanted one for my own use I would simply order it through channels, and would rest assured that if I did not win a match it would not be because any competitor had a better rifle, but because I lacked in skill. These rifles are not only the most accurate "as issued" rifles that you can get, but they are most carefully adjusted, and the sights are tight without any lost motion. The selection of ammunition is much more important than any matter of choice between various rifles selected and tested for the National Matches. I would strongly advise the 1924 National Match ammunition, or the Remington Match ammunition. Between these I don't believe that there is any choice as far as accuracy is concerned.

The matter of having suitable telescope sight blocks placed on this rifle for the Winchester 5-A scope is another matter. I don't think that Springfield Armory is prepared to do this work. Only the D. C. M. can tell you. If not, then I would have Springfield send the rifle to Winchester, tagged with your name, and would have them do it, placing the rear base on the receiver just in rear of the rear sight fixed base. Many places make awful blotches of placing these blocks on a rifle, but Winchester does it right.

I am sorry to say that I cannot tell you a thing about costs. I am now at Fort Benning, and have not access to the D. C. M., and I have long since ceased to try to keep track of his prices because some of them seem to change almost over night. You will have to write him and Winchester direct for prices. Also, I can't tell you anything about the pistol barrel. Ask the D. C. M. about this also. I am not sure that you can get Chloroil in bottles, but should think that you could on special order. Write the Conversion Products Corporation about this. I am sorry that I cannot answer more of your questions, but if I wrote for the answers myself I would have to delay the answering of your letter a long time, and I thought that it would be better if you wrote yourself, thus saving delay.

#### THE COLT .38 NAVY

I HAVE one of the Colt's .38 Navy revolvers marked on barrel .38 D. A. Colts. Is it safe to shoot the .38 Special Colt's cartridge out of this arm? A. M. B., Muskogee, Okla.

*Answer (by Major Hatcher).* The Colt .38 Navy revolvers were made for the .38 Long Colt cartridge, which has a hollow base bullet and works in a larger diameter barrel than the .38 Special. The earlier ones of these guns were chambered only deep enough for the .38 Long Colt, and the Special cannot be used in them.

Later, guns of this same model were chambered all the way through, and in these the .38 Special can be inserted. Evidently your guns is one of these later ones chambered all the way through.

It is perfectly safe to shoot the .38 Special in this gun, but the accuracy is not good because the barrel diameter is larger than necessary. For the best results, shoot the .38 Long Colt cartridge, and the greatest accuracy possible with the gun using factory loaded ammunition will be approximated.



## WATER CLEANING

**I**N USING water for cleaning the high power rifles, what is the proper temperature? Should it be brought to the boiling point? Some say it should be boiling hot. Is it best to pour it through from the breech, or pump it up and down with the rod and a piece of flannel, the rifle muzzle in the hot water?

I am going to expand some .25 caliber 86-, 100- and 117-grain bullets to use in my 7 mm. Mauser. The groove diameter is somewhere between .2865-inch and .287-inch. Would it be quite proper and safe to make these bullets about .001-inch (one-thousandth) larger than the bore? What weight No. 80 du Pont would be about right for each of the three bullets? I want to try these out and see which are the best for small game and target. Do you consider any of these would be better than a 110- to 120-grain gas check bullet about two-thousandths larger than the bore?

The 280 Ross 145-grain gilding metal bullet made by the U. S. Cartridge Co., measure about .2865-inch and should, don't you think, be the most suitable bullet for my 7 mm. These bullets appear to have a slightly shorter leaving than the 139-grain Western open point, but would, no doubt, cause more breech pressure on account of the additional weight and the two and a half thousandths larger diameter. As 44 grains No. 16 is given as the average maximum load for the 139-grain .284-inch bullet. What would be the maximum safe charge for the 145-grain .2865-inch bullet?

Which do you consider best for deer, one of the above light explosive bullets or the 175-grain special? Perhaps it would be best to use an explosive bullet for the first shot, and the 175-grain one if the animal runs from you. As the heavy bullet would, perhaps, have better penetration, and would not spoil so much meat. What do you think of the combination? C. J. J., Mascouche, Canada.

*Answer (by Major Whelen).* I have your letter of Sept. 29th. In cleaning high power rifles with water it is not at all necessary that the water be hot. Cold water will clean practically as well. Perhaps the reason for stating that the water should be hot, preferably boiling, is that the barrel is then easier to dry, but I don't think that this is of much moment as the bore can be easily dried by thorough swabbing with about five to seven dry, clean, cut flannel patches. Personally I use hot water when it is easily available, but most of the time it is not, so I just use cold water, and it cleans perfectly. I think that it is best to pour the water through from the breech, next to pump it up and down with the muzzle standing in a pan, and lastly to use the patches wet with water, but certainly it is very easy to clean perfectly by the last method. At home I pour water through the barrel. On a hunting trip where this is not so convenient, I use several wet patches. There is one thing certain, the cleaning with water, or with an aqueous solution like ammonia or Chloroil, is the only really efficient method.

A 7 mm. rifle with a groove diameter between .2865-inch and .287-inch is not so large but that the regular 7 mm. bullets which measure around .285-inch will not do excellent work in it, and I would advise that you try these bullets, particularly the 139-grain and 175-grain Western bullets before going to the expense of adapting other bullets.

I am not certain that you can expand .25 caliber bullets, which measure .257-inch, to .287-inch, and have them be efficient and accurate. It might be done in properly constructed dies, but I am inclined to think that the jackets would be split or weakened. However, it seems to me that the expense of having these dies made would be very considerably more than that of obtaining a good supply of Western bullets.

The ideal jacketed bullet is one about .00025-

inch larger than groove diameter. If you make them as much as .001-inch larger you run up the breech pressure considerably with no attending advantages. I would rather use a bullet .001-inch larger than that much smaller in my rifles.

I imagine that the 280 Ross bullets measuring .2865-inch could be used quite successfully in your rifle, but so far as I know they are well jacketed with cupro-nickel, so you must be prepared for some metal fouling.

The very best small game and medium range target load that I have found for the 7 mm. rifle is the Western 139-grain full jacketed Lubaloy bullet and 17 grains weight of du Pont No. 80 powder. This load is extremely accurate, and does not tear small game.

With the 175-grain Western soft point, Lubaloy bullet use a powder charge of 38 grains weight of du Pont No. 16 powder. Muzzle velocity about 2,350 f. s.

With the 139-grain Western Lubaloy bullet use a powder charge of 42 grains of du Pont No. 16 powder. Muzzle velocity about 2,725 f. s.

I would not advise that these last two loads be exceeded. I find that the majority of 7 mm. cartridge cases made in this country have evidently been annealed with a view to moderate pressures not exceeding about 45,000 pounds, and that one gets into trouble with cases swelled at the head, and blown out primers if very heavy charges of powder are used. Using the above loads as a basis I think that you can figure out what the load for any given bullet for the 7 mm. rifle should be.

I would consider the above 175-grain load to be the best for deer. It will not spoil so much meat as the very high velocity 139-grain load, and certainly it has much excess power for deer. I think that you ought to find it most satisfactory.

## OLD Krag AMMUNITION

**R**ECENTLY I picked up a bandoleer of 30-40 Krag cartridges. These are from the Frankford Arsenal, 1906. The head of the shells are marked "F A 06 9." (Incidentally, what is the meaning of the figure 9?) There are about 20 more bandoleers where these came from and they can be picked up for a few cents each.

However, before going ahead and buying these or trying out the ones I have in my Krag, I would like an expression from you as to whether in your opinion this ammunition would be a safe bet to use, mostly because of their age, 18 years. R. W. A., Cincinnati, O.

*Answer (by Major Whelen).* I should say that undoubtedly the ammunition you mention is the 30 caliber ball ammunition, model 1898, for the Krag rifle. It was manufactured in September, 1906 (the figure 9 stands for September) and contains a 220-grain bullet, and a powder charge of approximately 34.5 grains of Laflin and Rand W. A. powder. I should say that most probably this ammunition is perfectly safe, reliable, and accurate. The powder is not at all liable to deterioration with age except of course like all other powders, if not guarded against dampness it may become unreliable but not dangerous. The only trouble that you might find is that on firing the cartridge cases might split at the neck due to a change in the structure of the brass through constant strain over a long period. But even this defect would not make the ammunition dangerous. I do not think that you can get better ammunition for the Krag than this except by buying freshly loaded cartridges from one of the commercial companies, and I think you are taking no chances in purchasing it.

## LOADING FOR KRAG AND SPRINGFIELD

**I** WOULD like for you to give me a little information in regard to loading the 30-40 and 30-06 cartridges. I am a member of the N.R.A., having just joined, and have ordered some Pyro 30 cal. D. G., and the 170-grain M. P. bullets? How many grains of powder would you use as

a full charge in the two cartridges, also if you used the 100-grain 32-20 bullet, this bullet to be used as a reduced load. Can I use Pyro in a reduced load with the 170-grain spitzer bullet? I use the Ideal measure, so if it is possible, I would like you to give me the different loads, in measured grains. H. W. G. S., Buyck, Minn.

*Answer (by Major Whelen).* I have your letter of Sept. 29th. Using the 30 caliber Pyro D. G. powder, the following charges are correct for Krag and Springfield rifles.

For the Krag, with 170-grain bullet. Use 37 grains weight of Pyro (Ideal measure set at 48 grains). Muzzle velocity 2,200 f. s., pressure 40,000 pounds.

For the Krag, with 220-grain bullet. Use 36 grains weight of Pyro powder (Ideal measure set at 46.5 grains). M. V. 2,075 f. s., pressure 41,000 pounds.

For the Springfield, with 170-grain bullet, use 47 grains of Pyro powder (Ideal measure set at 57 grains). M. V. 2,500 f.s., pressure 49,000 lbs.

For the 100-grain 32-20 full-jacketed or jacketed soft point bullet, use a powder charge of about 10 grains weight of duPont No. 16 powder (Ideal measure set at 18 grains) for either the Krag or Springfield. I cannot tell you how this bullet will do in your rifle. In some of these rifles it seems to shoot remarkably well, and in others not quite as good.

Pyro powder cannot be used in reduced loads. It is designed to burn correctly at pressures of at least 36,000 pounds, and at very low pressures it does not burn at all well, and good results cannot be obtained from this powder in reduced loads.

You will find quite little information on reloading in the catalogue of the Modern Bond Company of Wilmington, Del., makers of reloading tools, and also in the circular of Belding and Mull. A copy of this last circular I am herewith inclosing. But you will only find full detailed information on all points in my book, "The American Rifle," which information you can obtain in most large libraries.

## FILED BULLETS

**D**O YOU consider National Match ammunition with the bullet cut off (filed) to expose the lead slightly safe to use in the Springfield rifle?

Would it be better to drill through the copper jacket with a small drill and if so would a 1/32 inch drill be satisfactory?

Would ammunition so modified by either of the above methods make a satisfactory deer load in your opinion? L. E. P., Utica, N. Y.

*Answer (by Major Whelen).* To make a satisfactory expanding big game bullet from full jacketed bullets including National Match bullets, first just touch the point of the bullet with a file so as to flatten it just enough to give a small flat place in the center of the point for the point of the drill to start in. Then drill a hole through the jacket only, and not more into the lead than is absolutely necessary. The hole should be accurately placed in the point, and I don't believe that it can be gotten central without doing it in a small lathe. I used a .05-inch drill, but feel sure that a 1/32-inch drill would be perfectly satisfactory. If this operation is done with a fair degree of care on a lathe so as to get the hole central, and of the same depth on every bullet, the accuracy of the bullet or cartridge will be as good as it was before alteration. This is the only safe way to make expanding bullets out of full jacketed ones, all other methods being open to the danger of shooting the core through the jacket and perhaps having the jacket lodge in the bore, which would probably result in a burst barrel on the next shot.

I have personally never used any of these bullets on game, but at one time I altered a large number in this manner for my friends who used them on all species of American big game with excellent results. They would be fine on deer.

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50 Yard Any Sight Match	-	L. M. Felt
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30-40 Krag	Cases, primed, \$1.80 a hundred. Bullets, 220-grain full jacketed, target grade, 80c a hundred. Bullets, soft point 180- or 220-grain, \$2.70 a hundred.
30-1906	Cases, primed, F. A. make, \$1.80 a hundred. Bullets, 150-grain full jacketed, target grade, 80c a hundred. Bullets, soft point, 180- or 220-grain, \$2.70 a hundred.
303 British	Cases, primed, \$1.80 a hundred. Bullets, soft point, 174- or 215-grain, \$2.70 a hundred. Bullets, 174-grain full jacketed, target grade, 80c a hundred.
7 mm.	Cases, primed, \$2 a hundred. Bullets, 175-grain full jacketed, target grade, 80c a hundred. Bullets, soft point or open point, \$2.70 a hundred.
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45 A. C. P.	Cases, primed or unprimed, F. A. make, 80 cents a hundred. Bullets, full jacketed F. A. standard, \$1.00 a hundred.
40-70 Winchester 1886	Cases, primed, smokeless type, \$1.50 a hundred. Bullets, lead, \$1.00 a hundred.
45-70	Cases, primed (Remington) \$2.10 a hundred. Bullets, 295-grain full jacketed, \$1.50 a hundred; 405-grain lead and 500-grain lead, \$1.25 a hundred; 300-grain lead, \$1.00 a hundred.
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The cartridges are packed in regular bandoliers of 60 cartridges each. These bandoliers are packed 20 to the case, 1,200 cartridges, and each case is solder-sealed, which insures that atmospheric moisture will not affect them. Some of the cases are wood; others steel with hinged lid and provision for padlock. These steel cases are worth having as tool or camp chests of convenient size and weight.

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Prices, \$35.00 per unbroken case of 1,200 cartridges. \$2.75 per single bandolier. Shipments made by mail, express or freight. Primed cases and loaded cartridges must go by express or freight. Deliveries made promptly. Prices are net here—transportation charges are extra. No substitutions made. Terms: cash with order or C. O. D. Your money will be refunded at once if we do not have what you want.

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J. J. TURNER, *Minneapolis, Minn.*"

"I wish you all kinds of luck in business. I find the bullets you sent me were all you claimed for them, and do some very fine long range shooting.

DR. S. L. ALLEN, *White River Jc., Vt.*"

"I wish to speak a word for your Squibb-Miller bullet. I bought 600 of them. At a rifle match at Taftsville, Conn., there were some mighty fine .22 caliber heavy-barrel match rifles against me, most of them with telescope sights. One of them equaled my score, but none of them could better it, and one man who tried had held the standing championship of the U. S. for two years. My rifle is a Springfield Sporter, and I used the load of 12.5 gr. No. 80 powder you advise. The ammunition attracted a great deal of attention.

H. GUY LOVERIN, *Rutland, Mass.*"

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This is the Griffin & Howe rifle and the score with which John W. Gillies won the 1,000-yard championship match held at the Peekskill, N. Y. range on October 19th under the auspices of the Metropolitan Rifle League composed of the leading rifle clubs in the vicinity of New York.

The match was open to any individual and any type of rifle. Over forty entries including most of the crack shots of the East were entered and all makes and types of match rifles were used. No more convincing proof of the supreme accuracy of Griffin & Howe rifles could be had than this performance.

The account and scores of this match were on Page 18, November 1st issue of THE AMERICAN RIFLEMAN.

Mr. Gillies' rifle combines certain essentials necessary to make it a winning gun. The barrel is 28" long, medium heavy to minimize barrel vibration and muzzle flip. It has close chamber tolerances and lead for that most accurate cartridge, the .30 '06 Springfield. Finely adjusted Mauser action with double set triggers. Illustration shows a 5-A Winchester telescope mounted, but there is also a third block for mounting the 22-inch Fecker high-power scope when desired. A well-fitting stock following close personal specifications including a Whelen cheek piece, a long and full substantial forearm and a full pistol grip carried rather close up to the trigger. No butt sling swivel. Complete rifle weighs 10 pounds 12 ounces.

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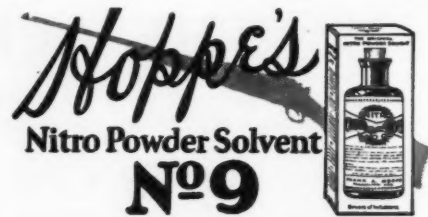
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**FOR SALE—45X Vion telescope, good condition, \$25. Officer's Model, 6-inch, new condition, \$28.50. 6-power Weiss prism binoculars, \$25. Model 10, 280 Ross, with Lyman 48 excellent condition, sporting rifle, with 380 soft point Winchester cartridges, \$55. Winchester 52 with extra hand-made straight stock, super-accurate, has refinished run of 207 consecutive 10's at 75 feet, \$30. J. A. Wade, Box 493, Sheridan, Wyo. I**

**FOR SALE—1912 Winchester pump 12-gauge 30-inch barrel, oil finished stock, \$38. 1 .22 L. R. Winchester musket, oil finished stock, \$16. Both guns in finest condition. M Krag carbine, good, \$8. Will consider trades for S. & W. .22 Olympic S. S., 38 O. M. Colt and tools or .32-20 Colt S. A. 5 1/4. 52 Winchester, new stock. J. W. Altken, Nekoma, N. D. 358**

**FOR SALE—One Model 52 Winchester and Stevens 368 Scope. Fired only 100 times, like new. Price \$55. Will trade for good pump 12-gauge, 32-inch trap gun or single trap gun. Wm. F. Smith, 5619 N. 4th Street, Philadelphia, Pennsylvania. R**

**FOR SALE—18 rifles and revolvers, collection of war relics, field telephones U. S. Army, new, military books, collection of war relics, send for list. Wm. F. Sattler, 514 Park Ave., Collingswood, N. J. 376**

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**FOR SALE—One .30-06 Winchester Model 95 Takedown, Lyman 38 rear sight, gold bead front. Barrel in excellent condition inside and out. Stock and receiver shows some use. A bargain for some one at \$32.50. One Lyman No. 34 Springfield sight, new, first money order for \$3.50 takes it. One .30-40 Ideal No. 3 special reloading set. Ideal shell resizing tool and Ideal bullet mold for same. Best offer gets outfit. Charles Hoffmeister, Imperial, Neb. X**

**FOR SALE—300 Savage with 410 barrel, new \$45. Remington pump, 12-30, full, A-1, \$32. Lefever double hammerless, 10-30, Damascus, good, \$16. 1895 Winchester, 35 caliber, good, \$17.50. 1890 Winchester, 22 long rifle, fine, \$12.50. Winchester .22 automatic, fine, \$16. Marlin pump, 25-20 hi-speed, fine, \$17. 1895 Winchester, 38-72, receiver sight, A-1, \$13. S. & W. 38 Special good \$14.50. Colt revolvers, (Bisley) A-1, \$23. Officers' Target, 38-7 1/4, pearl stocks, A-1, \$33.50. Army Special 32-20 fine, \$16. New Service 45-7 1/4 good, \$17.50. Single action, .32-20, .38-40, .44-40, .45, serviceable, \$14.50 each. Automatic 38 pocket, fine, \$17. Automatic .45, good, \$15. Ray Nelson, Roy, Utah. 388**

**FOR SALE—Latest model, .45 Colt auto. pistol, factory grease, perfect, \$32. Remington .380 auto pistol, new, perfect, good holster, \$17. New Model Savage NRA rifle, 22 cal., Marble peep, Vickers-Maxim front sight, extra Savage wind-gauge rear sight, barrel perfect, stock good leather sling, extra magazine, \$18. 9 mm. 1914 Luger, 8-inch barrel, 800-yard sight, very accurate, barrel fair, bluing worn on outside of gun, hand-made holster, box U. S. hollow point cartridges, \$35. Stevens off-hand pistol, 22 long rifle, 8-inch barrel, nearly new, perfect barrel, good holster, \$35.50. 30-30 Winchester carbine, good condition, barrel fine, outside of gun shows some use, \$18. Winchester Model 90 rifle, 22 short, barrel rough, shoots good, works perfectly, stock been roughly repaired, \$5. Meriden Arms Co. 12-gauge hammerless double, 32-inch, full and modified, very fair condition, stock 1 1/4, 2 1/4, 14, good condition, cleaning rod, good leather case, \$23. Du Pont hand trap, for throwing blue rocks, good as new, \$3. Might buy, or trade for 1916 Mark III Ross army rifle, good 20-gauge double or repeater, model 120 Remington 22, in good shape. J. W. Gibbins, Box 672, Lakeview, Oregon. 395**

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**FOR SALE—Westley Richards Excalibur Express Rifle, 24-inch barrel, 375-303 caliber. Full P. G. fine English walnut stock, silver name-plate, cheek rest, Silvers recoil pad, Lyman No. 35 rear sight and Express open sight 100, 200 and 300 yards Lyman gold bead front sight, sling swivels, and matted rib entire length of barrel. 40-375-303 copper capped Axite cartridges. 2 full metal cased Axite cartridges 375-303. A powerful bolt action rifle for big game with factory loads and any game with reloads, whole outfit, \$75. H. W. Smithwick, Americus, Ga. 392**

**FOR SALE—Brand new Carl Zeiss 7 x 50 Binocular, \$65. Just cost me \$89.25 including tax. Absolutely perfect in every optical and mechanical detail. Am unable to use as intended. Superb illumination and definition. Light gathering qualities in dusk and dark most remarkable. A very fair bargain for a perfectly new instrument. Postal money order only. R. D. Talmage, East Hampton, N. Y. 389**

**FOR SALE—Neidner-Krag 25 caliber rifle and complete swaging outfit for jacketed bullets including 2,000 jackets, \$50. Description furnished. Mauser rifle with special Government 30-inch barrel, 8 1/4-inch twist, close chamber, \$25 or trade for Colt 38-40 SSA. John Weigand, Wausau, Wisconsin. 366**

**FOR SALE—22 Winchester '06 fair, \$8. Two boxes 40-82 black powder 50c per box. 32-30 Winchester loading tool, \$1. 100 32-40 S. P. bullets, 165-grain, \$1. D. C. McNeill, 33 Beckford St., Beverly, Mass. 394**

**WANTED to buy Ballard single trigger action in perfect condition, barrel of no account, action must be perfect mechanically and reasonably priced. Give detailed description. R. Mos-teller, Box 975, Columbus, Ohio. 387**

**WANTED—Arms and the Man November 1st and December 15th, 1921. FOR SALE—Priced catalogs of sales of few famous collections of firearms and edge weapons. J. C. Harvey, 872 Main St., Worcester, Mass. P**

**TRADE—Bull elk head, Goers 8 x 30 binoculars. WANT—300 Bolt Savage or 7 mm. rifle, Ottaway telescope for .22 rifle, prefer 52 Winchester. Harold Peterson, East Providence, R. I. 391**

**TRADE—One brand new .35 Remington auto. for a rifle of lesser power. 35 Remington auto preferred. Andrew J. Domnansky, 823 Dewey St., Bridgeport, Conn. 390**



**FOR SALE**—Resizing dies, .45-70, .45 Colt, each \$1.10. Krag neck resizing dies, 85cents each. Collection of 70 ancient and modern cartridges, \$3.25. Ideal 8-ball molds, No. 308333, \$3 No. 308274, 195-gr, \$4.50. Cal. 30 mold casting 5 rnd balls, perfect ord, like new, \$3.25 ea. Cal. 45 mold casting 4-round balls, perfect order, like new, suitable for .45-70 rifles or .44 cap and ball revolvers, \$4.50 each. Old style mold casting 19/32-inch round ball, 50 cents. Old style mold casting conical ball for .44 C. & B. revolvers, 75 cents each. Spare cylinders, cal. 36 Colt model 1851, never used, like new, \$1.25 each. Spare barrels, 7 1/2-inch, cal. 36 Remington model 1858, bores fine, \$1.10. Shell chamfering reamers suitable for any cartridge .308-inch to .358-inch, \$1.10. Two dozen revolver nipples, \$1.10. .44 Colt C. & B. revolver, good \$6.50. Half dozen mainsprings, either .44 Colt or Rem. C. & B., \$1.25. Half dozen hands, either .44 Colt or Rem. C. & B. \$1. Hammers, 50 cents. B. K. Wingate, R-2, Reading, Penna. 401

**FOR SALE**—One Officer's model target six-shooter 7 1/2-inch barrel in perfect condition inside, blued on outside slightly worn, price \$35. One A-5 Winchester rifle telescope with No. 2 mounts and offset adapters, also mount blocks screws, etc., also leather case for same, almost new and in perfect condition, price \$35. One 25 rim fire Marlin slide action rifle, almost new and in perfect condition inside and out, barrel cut of 4-inch and stock 1/2-inch for trap line I. M. front sight and Marble dish rear, price \$15. C. R. Baker, Rocky Point, Oregon. 363

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**FOR SALE**—Smith & Wesson, 38 Special Military and Police, sg butt, 6-inch barrel. Mexican holster and cartridge belt, shoulder holster, and 200 cartridges. Perfect condition, is about 6 months old. Price \$30. Also Stevens's 414 Army, 22 L. R. equipped with Lyman No. 103 rear sight, No. 17 front sight and sling. Is in perfect condition inside and out. Cleaning rods and case included. Price \$20. F. P. Rodgers, 7421 Oglesby Ave., Chicago, Ill. 367

**FOR SALE**—Savage .250 bolt action, new and unused, with Lyman sights and loading chambers for Bond handles, \$50. Bardou 33-power scope, sole leather case, a pe-war glass of exceptional quality, \$23. Remington .50 caliber Army pistol, new and original condition, \$17. WANT—Zeiss 8 x 40 "Delactis" or Hensoldt 8 x 50 "Marine Dallyt" binocular. I. M. Massey, P. O. Box 101, Sheridan, Wyoming. 362

**WOULD like to TRADE** a very fine high grade pre-war J. P. Sauer & Son over and under gun for a high grade 12-gauge double gun. For particulars write telling me what you have to offer. Fred N. Anderson, Suffern, N. Y. 399

**FOR SALE**—Stevens Diamond Model Pistol, special 6 1/2-inch barrel, chambered for 22 short. New leather holster. Perfect condition and accurate. First \$8 gets it. H. H. Bennett, 142 Portland St., Boston, Mass. 416

**FOR SALE OR TRADE**—Stevens Schutzen rifle, two barrels, 22 L. R. perfect 32 Ideal fair. WANT—22 pistol. .30-06 reloading tools. H. D. Decker, 221 Garfield Ave., N. W., Grand Rapids, Michigan. 396

**FOR SALE**—Stevens 22 cal. L. R. relined barrel to fit English model frame, \$5. One Crossman high-power air rifle, \$8. Both new condition. J. J. Donohue, Wakonda, S. Dak. 398

**FOR SALE**—Stevens No. 414 with No. 368 scope mounted at factory, excellent condition, bluing somewhat worn on scope, \$26, or rifle, \$15, scope \$12.50. O. W. Hale, Wilmington, O. 347

**FOR SALE**—Winchester, single shot rifle in new condition throughout, vernier rear peep sight, caliber 40-60. Write J. R. Mattern, Julian, Pa. 364

**FOR SALE**—200, cal. 28-30 Stevens, cartridge cases, 50 of them new, all of them in good condition. Price \$4. W. J. Pittaway, No. Girard, Pennsylvania. 397

**FOR SALE**—1922 Springfield 22 cal., 2 magazines, perfect condition, shot less than 500 times, \$35. Ward B. Riley, 2150 So. 34, Omaha, Neb. 395

**WANTED**—303 Savage bullet sizing and muzzle expanding chambers for Ideal tool. A. W. Bedell, Fairbault, Minn. 408

**FOR SALE**—Nice pair large Elk antlers mounted, \$18 or **TRADE** for 45 Auto or New Service. Walter Ramby, Valley City, N. Dak. 405

**FOR SALE**—One 38 Colt's auto. military mod. 6-inch barrel, checked walnut stocks, Patridge sights, brand-new condition, price \$27.50. A. L. Steitz, Warehouse Point, Conn. 410

**TRADE**—Krag rifle or carbine, 300 cartridges, for good pistol or shotgun. Also want good Springfield action cheap, or trade. W. Bergman, 2438 No. Clark St., Chicago, Ill. 411

**FOR SALE**—Model 30 Remington bolt action, caliber .30-06, brand-new and in perfect condition, cost \$65, bargain for \$48.50. James A. Furman, Brocton, N. Y. 412

**WANTED**—45 Automatic Government model Colt pistol, condition of barrel no object, but gun must be in working order and very cheap. D. Wiggins, Route 3, Salem, Oregon. 417

**FOR SALE**—One Stevens scope No. 388 with mounts, no blocks, \$10. One .45 Colt, right and left Heisers, \$17.50. Albert Haiges, 108 Carey Ave., Wilkes Barre, Pa. 422

**FOR SALE**—Winchester 52 in good condition, barrel and action perfect, a few slight scratches on metal work. This rifle is very accurate, barrel has scope bases and iron sights, price \$26. E. L. McEwen, No. 2368 So. Linden Ave., Alliance, Ohio. 413

**FOR SALE OR TRADE**—One pair mounted Mongolian ring-neck pheasants, \$10. Single bird, (male) \$5. Will trade for new Stevens off-hand pistol, 6-inch barrel, or Marbles game getter, 12-inch barrel, in good condition. Wilbur J. Mote, Laura, Ohio. 414

**FOR SALE**—1 model 53 Winchester, 32-30 cal., new condition, tool and ammunition, \$28. One Savage, 22 N. R. A., fine, \$11. One Savage 250, fine, bolt action, Lyman rear, \$43. Guns shipped subject to inspection. S. V. Curry, 423 Center Ave., Carnegie, Pa. 407

**FOR SALE**—Remington 32 cal. auto loading rifle, brand-new, never used, gold bead front, King folding, Lyman tang peep sights, sling eyes, factory condition, cost \$70.65, price \$55. No trades. Dr. H. C. Murray, Murray Block, Herkimer, N. Y. 409

**FOR SALE**—303 Savage \$22 .22 Colt Automatic, \$15. .38 S. & W. Special 6-inch barrel, extra 4-inch barrel, Heiser quick draw shoulder and belt holster, Ideal No. 3 double adj. tool, .38-44 mold, \$39. Guns good, revolver excellent. H. Z. Halliwell, Schroon Lake, N. Y. 415

**WILL EXCHANGE**—30 caliber especially selected Springfield, chambered by Neider, equipped with 48 Lyman sight, in new condition for high-grade 12 gauge double barreled shotgun. **FOR SALE**—240 rounds cal. .30 model 1923, 170-gr. boat-tail ammunition, \$8.50 Laurence Nuesslein, 1119-14th St., N.W., Washington, D. C. 418

**FOR SALE**—BH grade Parker 20 factory new 28-inch barrels, 6 pounds, 13%. 2% Silvers pad, \$165. 25-35 Winchester S. S. 26-inch No. 3 nickel steel barrel double set triggers checked stock and forearm No. 2 five-power Malcolm scope Winchester mounts Bond tool, 200 shells, 1000 bullets, new \$40. G. E. Littlefair, Fort Worth, Texas. 403

**FOR SALE**—Pre-war Stevens Ideal 22 L. R. Lyman 17 front, Vernier windgauge rear, perfect condition, guaranteed extremely accurate, solid ebony butt plate, \$19. Winchester 22 automatic Lyman 45 receiver sight, new condition, cost \$45, sell for \$32.50. Colt O. M. with holster, perfect, \$35. Philip Plaistridge, Winchester, N. H. 406

**SPORTSMEN EXCHANGE**—We buy, sell and exchange guns, rifles, revolvers, high grade rods and reels, field glasses, cameras, watches. Highest prices paid for old gold, silver, platinum, and diamonds. Expert watch repairing. Send the article with a letter, and we will make you our best offer by return mail. E. Wagner, 515-R Ludlow St., Philadelphia, Pa. 404

**FOR SALE**—Colt .38 cal. 7 1/2-inch new, \$30. 5X Hensoldt Dallyt's scope with mounts, new, \$30. Graffax camera, 5 x 7 long focus with 14-inch F4.5 lens, revolving back and mag. plate holder, value \$300, take \$150. WANT—High grade 10-bore double hammerless. Target barrel .32 or .38 cal. for Winchester S. S. action, .30-06 match rifle. 22 cal. target pistol. Orlen Royce, Seaside, Oregon. 402

**SALE**—Buy Christmas presents at less than wholesale. Deduct 30 per cent from regular retail prices shown below and send M. O. Everything factory new, guaranteed, and not shopworn. Genuine Stanley vacuum bottle, 1 quart capacity, \$7.50. Heddon 3-15 reel, \$15. Shakespear professional reel, \$10. Melsabach tripod reel, \$4.50. Jay Harvey No. 6 casting rod, 5 ft., weight, 5 1/2 oz., \$12. Same, No. 4, 5 1/2 ft., \$9. Spalding V-neck slip-over collegiate grade sweater, Size 42, color Navy, \$12. Same, except Spalding-Baring, color maroon, \$10. H. & R. handy shotgun-pistol, 12 1/2-in. barrel, .410 gauge, \$16. Kaywoodie pipe, curved stem, \$4. The entire lot, regular retail value, \$100 for \$60, or might consider trade. WANT—In perfect condition only: Springfield as issued, .38 cal. S. & W. or .45 Colt single action, .44 or .45 cal. S. & W. single action, Ithaca 20 gauge auto and burglar pistol, binoculars, or other high grade revolvers or pistols. C. L. Winter, Goshen, Ind. 428

**WANT**—New barrel for Krag carbine, would consider Krag rifle barrel if good. S. H. Lapsley, Box 51 K. S. A. C. Manhattan Kans. 430

**FOR SALE OR TRADE**—20-ga. Ithaca auto and burglar gun, new and perfect, cost \$37.50, sell, \$27.50. 4X Imported "Binoculettes," wonderfully small, compact and efficient, new and perfect, cost \$27.50, sell \$17.50. Two new magazines for 22 Colt auto, \$3.90. Two for 38 Colt auto, \$2.50. Heiser spring clip shoulder holster for 38 or 45 Colt auto, perfect, \$4.75. WANT—9 mm. pre-war Luger (give date), 6- or 8-inch barrel. Stevens Diamond model pistol, 6- to 10-inch barrel, also Stevens pocket rifle, 10- to 18-inch barrel. Both these guns for .22 cal. I. R. cart. All of the above guns must be perfect in barrel and action. L. W. Warnken, Adrian, Missouri. 431

**FOR SALE**—White canvas pack sack, broad shoulder straps about 1 bushel capacity, \$2.50. One seat cover for 1920 to 1923 coupe, \$1. One 40-50 Ballard target rifle, barrel good shape, action fair, \$5. One .45 Colt New Service, takes regular Colt's cartridge, equipped with bead front sight, Heiser calf skin lined holster and belt, reloading tools and die and punch for Ideal lubricator, cost \$65, sell, \$45, new inside and out, accuracy guaranteed. One Savage 22 sporter checked fancy stock and forearm, matted barrel sling swivels, smoothed action checked trigger and butt plate new and perfect, also equipped with Lyman peep read and gold bead front sights, \$30. WANT—Springfield sporter in new condition. State condition and price. H. M. Briggs, Baraboo, Wis. 429

**FOR SALE**—Mod. 1873 Winchester rep. rifle, 32 W. C. F. in fine condition, \$24. Remington autoloading rifle, cal. 35, \$35. Savage 250-3000 bolt action in new condition, \$45. Steyr automatic military pistol cal. 9 mm., \$25. Mannlicher military automatic pistol, cal. 9 mm., \$30. Remington double barrel Deringer, cal. 41 nickel-finish, \$10. S. & W. perfected target pistol, 22 cal. I. R., 8-inch barrel, \$22.50. S. & W. safety hammerless 32 cal. nickle in new condition, \$18. Colt 38-40 S. A. A. 5 1/2-inch barrel, walnut stocks, nickle, \$22.50. W. S. Lutz, 212 So. 42nd St., Philadelphia, Pa. 423

**FOR SALE**—'03 Military Springfield, inside barrel like silver dollar, shiny black stock. I will box, ship C. O. D., \$16. Engraved silver mounts, Phil. Deringer. Silver at butt replaced. Working order, \$6.50. Commercial art correspondence text books, best offer or trade for old guns. Course cost \$120, but don't let that scare you. M. P. Ward, 4907 Jackson Blvd., Chicago, Illinois. 433

**FOR SALE**—22 Colt Police Positive target revolver, 6-inch, outside perfect, inside good, accurate, \$20. Spring shoulder holster, \$1.50. I. C. S. architect's library, 11 vols., complete, new, cost, \$55, sell, \$25. WANT—Stevens mod. 10 pistol, must be perfect and cheap. J. I. Davis, 4522 Forbes St., Pittsburgh, Pa. 432

**FOR SALE OR TRADE**—30-30 Winchester carbine, \$22. 32-20 Colt Army Special 6-in., \$22, or trade either for .45 automatic or 44-40 s. a. Colt. WANT—45 Colt revolver reloading tools. Dr. A. J. Kent, 79 N. Stone Ave., Tucson, Arizona. 426

**WANTED**—The following back numbers in good condition of *Arms and the Man*: April 1, 1922, June 1, 1922, February 1, 1922, May 15, 1922, complete years 1920 and 1921. Sidney Maranov, 233 West 77th St., Apt. 14G, New York City. 424

**FOR SALE**—Springfield, excellent condition, Lyman micrometer rear and ivory bead front sights, \$30. Carwood Oliver, 1381 F. St., N.E., Washington, D. C. 425

**FOR SALE**—One .30-06 cal. Springfield in new condition, \$28. L. Nuesslein, 1119-14th St., N.W., Washington, D. C. 420







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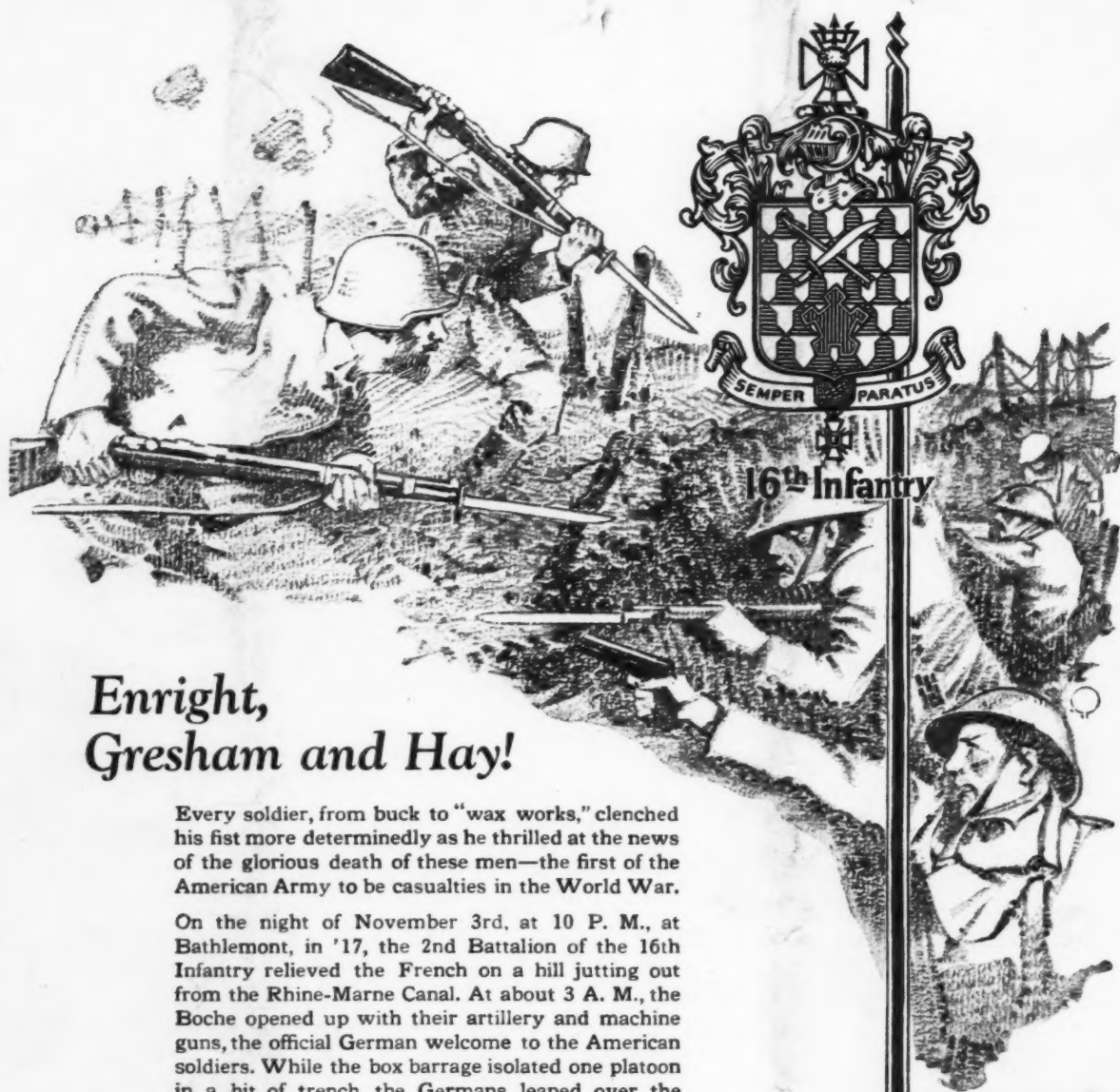


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Every soldier, from buck to "wax works," clenched his fist more determinedly as he thrilled at the news of the glorious death of these men—the first of the American Army to be casualties in the World War.

On the night of November 3rd, at 10 P. M., at Bathlemont, in '17, the 2nd Battalion of the 16th Infantry relieved the French on a hill jutting out from the Rhine-Marne Canal. At about 3 A. M., the Boche opened up with their artillery and machine guns, the official German welcome to the American soldiers. While the box barrage isolated one platoon in a bit of trench, the Germans leaped over the parapet and came to grips with the defenders. The Americans were inexperienced in the tactics of trench raids, but they fought like demons with fists and rifle butts in this mêlée of death.

The trench was held and the Germans driven off, but in its muddy bottom lay three men, America's first dead in the cause of human freedom. These men were Corporal James B. Gresham, Private Thomas F. Enright, and Private Merle D. Hay, all of Company F, 16th Infantry.

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